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Conceptual Makeup of Metaphors: Metaphoric Sources and Targets in their Bidirectional Interplay

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Abstract

Metaphor has been widely researched within the realm of Cognitive Linguistics, having as major landmarks Lakoff's Conceptual Metaphor Theory and Fauconnier and Turner's Mental Space based analysis. Nevertheless, specific aspects that pertain to the dynamic character and flexibility of metaphorical relations, enabled by the concepts involved, remain rather un-treated in literature thus far. In this light, the aim of the present work is to propose a model that may account for a more dynamic process of integration in metaphoric constructions. Major attention is paid to the participation of the target as a conceptual entity capable of selecting aspects of the source in order to elaborate a final interpretation. To this end, the study designed a set of five metaphors whose constitutive concepts were inverted and mixed up in all possible combinations. The pairs generated were presented to 150 participants, who were divided into 6 groups of 25 people, and each participant provided an interpretation for 15 different combinations, ending in a total of 2250 answers. Based on this large number of answers, an elaborated and detailed account of the metaphors' mechanics was pursued. The quantitative analysis of the results yielded measures of the difficulty and easiness of interpretation, concentration of responses and dispersion as well as frequency of sanctioned domains across the metaphoric pairs. The aforementioned indicators were in turn thoroughly correlated with the conceptual makeup of both sources and targets. Subsequently, the qualitative analysis of the results show that intrinsic characteristics of the concepts such as the level of schematicity, entrenchment and concreteness, play a fundamental role in the construction of meaning. Following the consequences of the findings, it is concluded that metaphorical interpretation is the product of a bidirectional interplay between the source and target concepts. Also, metaphorical interpretation is not an absolute conceptual construct but metaphorical answers can be placed along a scale of interpretations that represents different levels of metaphoricity.

Keywords: bidirectionality, blending, conceptual metaphor, construal, domain matrix, emergent structure, entrenchment, ICM, integration network, metaphoricity, metonymy, schematicity, source, target, width of scope.

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Chapter 1
Introduction

Cognitive Linguistics is a rather new school of linguistics, and also one of the most innovative and fresh approaches to the study of language, as it greatly stems from its interdisciplinary to what is broadly defined as cognitive sciences (Evans & Green, 2006). The two major lines of research that cognitive linguists pursue are Cognitive Semantics and Cognitive Grammar. Within this new discipline there are two key commitments that govern language studies. The first is the 'Generalisation Commitment', which implies that assumptions made by cognitive linguists are common principles that can be found across the different aspects of language (2006). Thus, this commitment is a criticism to the modular conception of the linguistic system proposed by Generative Linguistics, as all levels of language must be somehow interconnected. The other commitment is the 'Cognitive Commitment', which establishes that the principles of linguistic structure should be a reflection of human cognition at large. Therefore, language and the linguistic structure are manifestations of the general cognitive principles rather than the reflection of specific principles of language.

One of the central issues in Cognitive Semantics is the study of Metaphors. For many years, Metaphor has been one of the most extensively studied aspects of Semantics. This phenomenon has received considerable attention since Aristotle to modern day linguistics, and also including the studies of rhetorics and literature. The 1980's work by Lakoff and Johnson, *Metaphors We Live By*, made them recognizable as the forerunners of studies of metaphor from the Cognitive Linguistics Perspective. Their approach to metaphors is known as the Conceptual Metaphor framework, which examines the relationship between concepts that give rise to metaphors. This work is a landmark within the field of Cognitive Semantics as it considers that metaphor is not limited to language only, but it is also found in thought and action (1980). This correlates to the assumptions made by cognitive linguists that we can only talk about what we see and experience (Evans & Green, 2006). Metaphor is something that is present, or pervasive, in everyday life. Metaphor is considered by Lakoff and Johnson part of everyday language, as

everyday experience is reflected in conceptualisation. Thus, if language can be metaphorical, it means that the thought system can also categorise and conceptualise in a metaphorical manner.

In the classic theory of Conceptual Metaphor, metaphors are understood to be cross-domain mappings, and the motivation for this is to understand an abstract concept in terms of a concrete one (Lakoff & Johnson, 1980; Lakoff & Turner, 1989; Kövecses, 2010). Thus, an abstract entity such as TIME can be understood by means of a concrete entity such as MONEY, hence the emergence of the metaphor TIME IS MONEY (Lakoff & Johnson, 1980). This is a clear example that metaphor is found in everyday life. The domains involved in the mapping are called *target*, which is the domain that receives elements projected from the other domain, the *source*. Thus, conceptual metaphor theory established that the relationship between the concepts that give rise to metaphor, is a mapping from concrete to abstract, which leads to fixed patterns of the direction of the metaphor.

Fauconnier (1985) characterises the domains that constitute the metaphorical relation as *Mental Spaces*, which are conceptual packets of information that are built on-line during the process of meaning-construction. The theory of Mental Spaces gives rise to another one, known as Conceptual Blending (Fauconnier & Turner, 1998). In the blend, there are mental spaces that serve as inputs that are projected to a different space which is the resulting metaphor. Thus, the process of mapping proposed by Lakoff and Johnson is reinterpreted by Fauconnier and Turner as a process of projection of both input spaces. The relation is not only from concrete to abstract, but commonalities between the input spaces, i.e., between sources and targets, are matched in order to selectively project elements to the emerging structure, known as the metaphor (1998). In order to provide a complete picture, Fauconnier and Turner elaborate the model in which three types of mental spaces are disposed: the input spaces, the generic space and the blend. The input spaces belong to both source and target domains, the generic space is the one in which salient characteristics of each space are matched, and the blended space is the final outcome of the merging. The blended outcome depicts the selected features of the generic space.

Kövecses (2010) resumes the idea of the concrete-to-abstract relation by establishing the Theory of Unidirectionality in the metaphor, i.e., concrete and abstract concepts are in a rather asymmetric relation, constraining the mapping. Therefore, the mapping occurs from source to

target only, and if it was the other way around it would not result on the same metaphor, or the same interpretations.

So far, the elaboration of novel metaphors has been said to be based on conceptual metaphors which mapping is established by understanding one abstract domains in terms of a concrete one. Nevertheless, there are a number of metaphors that put this notion into question. This is the case of metaphors such as *This surgeon is a butcher* in which, by looking at the schematic nature of target and source, it can not be determined which one of them is more abstract or concrete than the other. Even though, as for the integration, everyone would agree that there are only two common responses: a figurative lecture, (1) that it is a surgeon who does not carry surgeries appropriately (without any care), or a literal lecture, (2) that the surgeon is at the same time, professionally, a butcher. Concerning figurative meaning, the first lecture arises from a mismatch between how both professionals approach their 'patients' (body/meat). As the mapping occurs from the source to the target, this is, the surgeon understood in terms of the butcher, the mismatch ultimately produce a blending in which the butcher's skills seems inappropriate (negative) for the doctor. What it is more interesting about this case is that, besides the clear lack of an abstract-to-concrete relation, the schematic nature of both concepts allows even for an interchangeable use of the concepts, i.e., T*his butcher is a surgeon* in which, interpretations related to a skilful butcher may arise. The interchangeable character of this metaphor poses several questions concerning the notion of directionality and abstractness/concreteness in terms of the relation established between targets and sources in metaphoric constructions. Then, in order to shed some light on these concerns, this thesis proposes an inquiry into the conceptual nature of sources and targets. In other words, this study will dive into the study of how some concepts, either used as target or source, behave within metaphoric constructions. In other words, it will explore the aspects of both source and target that licence or cancel the possibility for them to prompt for a metaphoric interpretation.

Another concern tackled in this study has to do with the actual functioning of the metaphoric mapping. In this respect, when observing how metaphors actually work, one can notice how aspects of sources are projected or mapped into the target. Consider the following examples: (1) *This movie is a joke* and (2) *This joke is a movie*. At first glimpse one can grasp the

figurative meaning of (1) quite easily. The schematicity of source JOKE -some kind of continuum that suddenly change into something unexpected- is projected into the ICM of 'MOVIE' resulting in the figurative lecture of a movie that did not resulted as it was expected, therefore, a bad movie (BAD QUALITY). But when approaching (2), the scenario is interestingly different. Having now MOVIE as the source concept, the metaphoric integration becomes less evident to notice. When people face (2), the main tendency is to project more than one aspect of the source MOVIE into the target JOKE. Some people may focus on the unreal nature of the movie to say that joke was fantastic or incredible, others may take length as a relevant aspect to express that the joke resulted as long as a movie and others possibly may find impossible to establish any kind of mapping. Moreover, it is important to notice that when facing other instances of metaphors containing MOVIE as the source such as *This memory is a movie* or *This wife is a movie*, different domains may be sanctioned and some of them may be even not present in the rest of the cases. This can be observed by comparing the use of targets JOKE, MEMORY and WIFE in the construction *This x is a movie*. There, WIFE is more likely to be understood as a beautiful woman rather than a lengthy wife and as for MEMORY, neither length nor beauty seems a suitable aspect to be mapped from MOVIE to MEMORY but rather a domain related to unreality or imaginativeness. Concerning meaning construction, this implies then, that metaphoric constructions like *This x is a movie* present some kind of 'conceptual flexibility' as people may decide to run for different types of interpretations and sanctioned domains. Based on this impressions, it is pertinent for this study then, to explore where all this flexibility/fixedness relies on. In other words, to understand which conceptual aspects of sources and targets characterise this flexibility. This would allow the study to address the questions of how does the individual reach coherent interpretations from metaphors which are not entrenched and how these constructions can finally present similar interpretations for different listener/readers, and what it seems more crucial, to what extent does the schematic makeup of sources and targets prompt for the emergence of one or more sanctioned domains. Also, as for the notion of entrenchment, this study will explore the extent to which the emergence of similar type of responses, expressed in terms of convergence of interpretations, may characterise some metaphoric constructions as more or less entrenched than others. In this respect, it will be interesting to determine how

different *This joke is a movie* and *This memory is a movie* could be in terms of entrenchment and why. More specifically, concerns will circle around the questions of which aspects of the interplay between sources and targets seem relevant for a metaphoric construction to be considered entrenched or non-entrenched. This inquiry might ultimately provide interesting insights into the matter of entrenchment as a defining aspect for the understanding of novel metaphors.

Another dimension considered for this thesis is the degree of difficulty an interpretation may present. As mentioned above, some participants may grasp more easily the figurative meaning of some metaphoric constructions, as in the case of *This movie is a joke*. For these cases it is traditionally stated that the more entrenched a metaphor, the easier is to understand its meaning. However, when facing novel metaphors such as *This joke is a movie*, the relation between degree of difficulty and entrenchment seems harder to evidence as, even when this construction is not considered entrenched, some individuals may provide different interpretations, being all ranged differently in terms of difficulty. Then, no clear distinction has been made in terms of difficulty between this construction and those presenting a similar structure such as *This memory is a movie* and *This wife is a movie*. Therefore, it would be interesting to see to what extent the level of difficulty can tell something meaningful about the ability or inability of producing coherent interpretations and which aspects of the concepts used either as sources or targets seems relevant to determine the difficulty of integration. On the same lines, this study would explore the possibility that the level of difficulty presented during the process of integration may reveal something important in relation to the mechanisms of integration, metaphor (inter-domain mapping) and metonymy (intra-domain mapping). The most discrete correlation between type of interpretation and level of difficulty may be observed in the difference between finding or not a way to achieve a metaphorical interpretation. In the one hand, as for the expression *This movie is a joke* meaning a bad quality movie, if people provide the same type of responses, the level of difficulty would remain low as most of the individuals will share more or less the same interpretation. On the other hand, the inability to find a coherent interpretation for constructions such as *This memory is a wife* will definitely evidence the most high difficulty of integration. But the matter of interest for this study is not only the ability or

inability to reach a metaphoric integration, but it also aims to examine cases in which metonymic integration may arise too. For instance, a possible interpretation for the expression *This joke is a movie* could be that the content of the joke being told was based on a movie, a construction that resulted in the elaboration of a metonymic interpretation. From this possible scenario, similar questions to the previous concerns arise in relation to the nature of the concepts used in the metaphoric construction, but this time, the focus is placed on its effect on the cognitive mechanism used for achieving an interpretation. This interest addresses the questions of which type of interplay between target and source trigger the emergence of one type of integration or the other and to what extent the ability/inability or degree of difficulty when achieving an interpretation finally have or not an impact on the selection of one particular type of mapping.

Finally, in this study, the already mentioned concerns will be approached as a whole, i.e., an integrated study on the featural aspects of the interaction between sources and targets in metaphoric constructions, namely, the level of schematicity, level of entrenchment, difficulty of integration, and type of integration. At the end, this inquiry will contribute not only to illuminate a bit more the big question of how metaphors and novel metaphors are understood or cognitively processed by the individual, but to shed some light on the more general ability of meaning construction.

In order to analyse the features mentioned above, a test was applied to 150 participants in which they had to come up with an interpretation for 90 different metaphors. The participants were divided into 6 groups of 25 people, each of them interpreting 15 different metaphors. The metaphors presented consisted of 10 different concepts in total, that were placed in both source and target positions. Thus, the metaphors stemmed from combinations of the concepts, each one serving as source and target concept 9 times. The data obtained from the participants was first analysed quantitatively searching for average difficulties, standard deviations and convergence to study the aspects of entrenchment, difficulty and type of interpretation.

This study is divided into seven chapters, including the introduction which corresponds to the first section. The second chapter presents the Literature Review of this study, which includes pertinent research on the matter of metaphors from classic approaches to the innovative views of cognitive linguistics and the challenges to overcome are pointed out. The third chapter features

the Theoretical Framework, where salient theories and approaches in relation to metaphor that serve to the formulation of the hypothesis are presented. Furthermore, this section also presents the research questions and objectives that were pursued in this study. The fourth chapter is concerned with the Methodology employed, taking in consideration matters such as the materials, the description of the participants, the research design and the specificities for the analysis of the data. Then, the fifth chapter presents the Quantitative Analysis of the data by inspecting the indicators difficulty and convergence of interpretations applied to sources, targets and types of integration. Correlations between difficulty and concentration are also found in this section. In the sixth chapter, the results presented in the Quantitative Analysis are analysed qualitatively. This chapter presents a reinterpretation of numerical values to test whether the assumptions made in the hypothesis prove to be consistent with what is found in the participants' responses. The seventh chapter presents the general conclusions that can be drawn from this study, and summarises the importance of the findings together with establishing the limitations faced.

Chapter 2

Literature Review

2.1. Language and Meaning: The Scope of Semantics.

For many years it was believed that language constituted a separate cognitive faculty specific to linguistic representations, present in a modular fashion in the speaker's mind. The linguistic modularity hypothesis is a generativist approach to the cognitive subsystem called language, or 'language faculty' (Evans & Green, 2006). This hypothesis assumes that there is an "encapsulated system of specialised knowledge that equips the child for the acquisition of language and gives rise to unconscious knowledge of language or competence of the native speaker" (p.145). The language system would consist of different modules dedicated to distinct linguistic functions , a possibility that leads to the idea of the biological modularity of the mind's organisation. This implies that the language faculty as a whole has a modular structure, which is traditionally divided into Syntax, Phonology, Semantics and Pragmatics. These modules would work independently, as for example Semantics, which is context independent and a type of knowledge separable from Pragmatics, which forms a context-dependent type of knowledge (Evans & Green, 2006). This was the approach to language that formal linguists promoted for many years, with Chomsky focusing on the syntactic module of language (see Chomsky, 1965; Chomsky, 1995).

The alleged module that deals with meaning construction and/or representation is Semantics. Formal Semantics, or Truth-Conditional Semantics, was the approach to meaning pertaining to formal linguistics. This is an approach to sentence meaning in which the focus is to establish truth conditions, that is to say, to establish whether "a proposition is true or false depending on the state of affairs that obtain in the world and the meaning of a proposition is its truth conditions" (Briscoe, 2011: 8). Thus, this approach assumes that the meaning of a linguistic expression will be true or false in relation to a model of the world, therefore, expressions are necessarily connected to the real world and the knowledge that people have about it. Following this line, truth-conditional semantics mainly reduces meaning to the external and referential aspects of it, that being so, meaning is the result of relations of denotation between propositions

and referents or entities that exist in the real world (op. cit.). According to this approach then, the denotative function of language is thought to exhaust the non-pragmatic aspects of meaning. However, this idea presented a problem: meaning can not be reduced only to the referential level. When someone says *the morning star is the evening star* (Frege, 1892 in Briscoe, 2011), morning star is being defined both referentially and conceptually (i.e., the meaning is constituted both by the referent, venus, and the concept; star that appears in the evening), therefore, there is not only a referent to denote but also a sense to convey. This demonstrates that there is much more in a linguistic expression regarding meaning than the truth value of its denotation.

Another current of Semantic studies is related to the theories of compositionality. The principle of compositionality proposes that the semantic meaning of a sentence is given by the combination of the meaning of each word presented in the sentence (Davidson, 1984; Partee, 2004; Evans & Green, 2006). This theory of semantics focuses on the context-independent features of words and sentences, and considers that any other meaning associated to a word or sentence is out of the scope of semantics, and falls into the realm of pragmatics (op. cit.). Thus, it can be inferred that from this perspective language is considered to be divided into modules, as "semantics is concerned with what words and sentences meanwhile pragmatics is concerned with what speakers mean when they use words and sentences in situated language use, and how hearers retrieve this intended meaning" (op. cit: 365).

Cognitive linguists, like Sweetser (1990), have reacted to these streams of thought and established that "by viewing meaning as the relationship between words and the world, truth-conditional semantics eliminates cognitive organisation from the linguistics system" (Sweetser, 1990; in Evans & Green, 2006: p. 156). This means that Cognitive Semantics views meaning in a different way, as linguistic meaning is a manifestation of the 'conceptual structure' (op. cit.). The 'conceptual structure' refers to knowledge representation, its structure and organisation of concepts in the human 'conceptual system'. The conceptual system is the repository of concepts available to the human being, which is the result of the processes of categorisation and conceptualisation (Evans, 2007). It is important to consider that conceptualisation encodes and transmits meaning that derives from percepts of the external world, and that leads to the construction of a concept. It seems that there is an ample support to

the possibility that that the system of linguistic signs reflects thoughts within a systematic mental structure. Thus, concepts are linguistic symbols that directly refer to the projected reality (Evans & Green, 2006). This means that, from the elements present in the external world, people are able to label these objects and experiences with linguistic symbols so to make them concepts. Cognitive Linguistics proposes that language can be seen as a mental representation of reality, as construed by the human mind, mediated by our unique perceptual and conceptual systems.

Cognitive linguistics, then, adopts an experientialist perspective, as it considers that external reality exists, "but the way in which we mentally represent the world is a function of 'embodied experience'" (2006: p. 365). According to this view, the study of the human mind cannot be carried out in isolation from the human embodiment. Human embodiment entails that the construction of reality is likely to be mediated in a great extent by the nature of our bodies. The fact that the human mind is embodied, i.e., 'structured in part by the nature of the bodies we have and by our neurological organisation', has consequences for our cognition. In other words, the concepts we have access to, and the nature of reality we think and talk are a function of our embodiment. This means, we can only speak about what we, as human beings, can perceive or conceive, so the sensorial information is translated into linguistic symbols. From this point of view, 'the human mind must bear the imprint of embodied experience' (Evans & Green, 2006). In other words, this experience can be said that is meaningful by virtue of our sensorial-perceptual ability, that forms the basis for the construction of most fundamental concepts.

Therefore, as the cognitive view of language claims that the human mind takes elements from the experience that the human body provides, it is of no surprise that the cognitive study of language will also be taken from a different approach, i.e., not restricted (only) to investigating aspects of grammatical structure largely independently of meaning. Then, a contrast arises between formal and cognitive semantics. On the one hand, formal semantics views meaning as dictionary meaning, i.e., "it is a type of knowledge that relates to knowing what words mean, and this knowledge represents a specialised component, the 'mental dictionary' or 'lexicon'" (Evans & Green, 2006: p. 208), which correlates with the compositionalist view of meaning. One of the major drawbacks of this approach is that meaning is considered context-independent, thus

separating semantic and pragmatic meaning. On the other hand, cognitive semantics holds an encyclopaedic view of meaning. This means that "while the dictionary view represents a model of the knowledge of linguistic meaning, the encyclopaedic view represents a model of the system of conceptual knowledge that underlies linguistic meaning" (2006: p. 215). It follows that meaning represents reality, as it is based on the conceptual system and, thus, it cannot be context-independent. Lexical items are points of *access* to encyclopaedic knowledge (see the following section), and do not carry meaning on their own as they go through the process of conceptualisation.

Furthermore, Cognitive Linguistics proposes that the structure of thought is said to produce a speaker's intuitive linguistic knowledge. For instance, native speakers of any given human language will have 'strong intuitions' (Evans & Green, 2006) about what combinations of sounds or words are possible in their language, and which interpretations can be paired with which combinations. This statement assumes the existence of empirical evidence for thought systematicity. If thought systematicity can be traced through intuitions, there is for sure a strong relation of Language and Concepts. In other words, a conceptual system, may reflect the view that linguistic structure and organisation are an indicative reflection of cognitive structure and organisation. People's thoughts are systematically constrained, people seem to assemble their experiences into a single systematised network.

Finally, the study of the meaning, under a cognitive viewpoint, will take cognitive semantics to an approach as an attempt to 'understand how this linguistic system relates to the conceptual system, which in turn relates to embodied experience' (Evans & Green, 2006). From this, then, it can be inferred that every structure that conveys meaning is a representation of the conceptual system, and if semantic and pragmatic meanings have no principled distinction, literal and non-literal meaning could not be separated; literal meaning has been widely understood as *what is said*, and non-literal meaning as *what is meant* (see section 2.3 below). This is also explored by Lakoff and Johnson, as they refer to the pervasiveness of metaphor in daily life, not just in its linguistic form but also in the thought and the process of conceptualisation. Further development on this issue is found in section 2.5.

Thus, the study of meaning for cognitive semanticists will have to recur to the following considerations, (1) To take into account the concept of embodied experience towards the understanding of a systematised organisation of the external world into hierarchical constructions, (2) to study metaphor and other aspects of meaning under a cognitive view, and (3) the reconsideration of the construction of meaning as conceptual.

2.2. From Ontology to Conceptualisation

One claim within cognitive linguistics that has special relevance to the theory, is the fourth guiding principle of cognitive semantics: "meaning construction is conceptualisation" (Evans, Bergen & Zinken, 2007: p. 6). Following this principle, language does not encode meaning but, words (and other linguistic units) are only 'prompts' for the construction of meaning. According to the latter, the construction of meaning takes place at the conceptual level, equating meaning construction to conceptualisation, the second being a process in which linguistic units act as an access point to a vast repository of conceptual operations and the recruitment of background knowledge (2007).

An influential theory in cognitive linguistics, one that has affected the understanding of conceptualisation, is the Gestalt Psychology, which first emerged in the nineteenth century within the field of Psychology and then applied to the cognitive enterprise by scholars such as Leonard Talmy, Ronald Langacker (Evans, Bergen & Zinken, 2007) and George Lakoff. The term Gestalt, used in cognitive linguistics, does not necessarily bear the same features as in psychology. This concept of gestalt is coined by Lakoff as "structures that are used in cognitive processing and wholes whose component parts take on additional significance by virtue of being within these wholes" (Cienki, 2007: p. 105). Gestalt perception seems indeed to play an important role in categorisation and typicality of category members (Ungerer & Schmid, 2006) as they prompt for the construction of meaning through the creation of categories based on the sensorial and perceptual experience.

An important concept concerning cognitive linguistics and more specifically that of conceptualisation is that of 'categorisation' which is "our ability to identify perceived similarities (and differences) between entities and thus group them together" (Evans & Green, 2006: p. 248). The importance of categorisation in relation to conceptualisation, lies in the fact that it relies upon and give rise to concepts, being therefore central to the conceptual system. The concept of categorisation partially accounts for the organisation of concepts with the network of encyclopedic knowledge. This categorisation theory emerged in the 1970's and finally called into question the classical categorisation theory widely used by philosophers, dating back to antiquity. This classical categorisation theory that sees categories as based on shared features is not completely wrong, since categorisation is often made by means of similarity. However, in recent years it has been made evident that categorisation is much more complex (2006). This groundbreaking new theories are grouped together in what is known as the "prototype theory" as developed by Eleanor Rosch and her colleagues.

With the prototype theory, Rosch proposes in her early works that, contrary to the classical theory, humans do not categorise by means of "necessary and sufficient conditions" but rather with reference to a "prototype", which consists of "a relatively abstract mental representation that assembles the key attributes or features that best represent instances of a given category" (Evans & Green, 2006; Evans, 2007; Evans, Bergen & Zinken, 2007). Therefore, a prototype was understood as the schematic representation of the representative characteristics associated with members of a given category (Evans, 2007). The prototype theory received criticism later on, due to the fact that prototypes, as mental representations, failed to model the relational knowledge that humans appear to have access to. Some scholars asked for a revision of the prototype by suggesting, that the mental representation might correspond to an exemplar, or the best example of a category. However, the latter presents the problem of not being able to represent the generic information that humans have access to when using concepts as a host of conceptual operations, categorisation included (Evans, 2007).

Influenced by the works of Rosch, George Lakoff developed a theory of categorisation that could account for the empirical findings of Rosch's works, the theory is known as the 'theory of idealised cognitive models' or 'ICMs'. Lakoff claims that categories relate to ICMs, which are

"relatively stable mental representations that represent theories about the world" (Evans & Green, 2006: p. 270). As opposed to prototypes, ICMs are rich in detail while preserving their "idealised nature" since they abstract across a range of experiences rather than representing specific instances of a given experience. The main claim of Lakoff's work is that knowledge is organised by these structures known as ICMs, and that category structures and prototype effects, the latter being gradations away from a best example, are by-products of that organisation (Lakoff, 1987).

An important concept that has been intellectually exploited within cognitive linguistics is that of the 'schema'. The concept of schema has become a touchstone for the cognitive enterprise as it is viewed as an entity that supports the structure of human language and thought (Oakley, 2007). The concept has been used by various authors, such as Langacker and Lakoff, but in general is conceived as superordinate concept that specifies the basic outline common to several specific concepts (Tuggy, 2007). Langacker considers the ability to generalise, which he conceived as equal to the extraction of schemas, to be one of the most essential human cognitive capabilities. It involves the abstraction of commonalities, from less important details that might differ from one concept or cognitive experience to another (Tuggy, 2007). From this application of the concept arises the concept of schematicity which is related to the level of detail in which something is characterised. The latter notion of schematicity is bounded primarily to the level of specificity along one or more parameters (Langacker, 1987), and therefore schemas are constructed as such by means of relations to their elaborations, the specific entities that provide the same information at a higher level of specificity.

The emergence of schemas being bounded to the immediate relations to their elaborations, it does not make sense to call any concept a 'schema' or saying that is 'schematic' due to the fact that all human concepts are schematic to some degree (Tuggy, 2007). Concepts allow a range of variation since they do not meet exact values, thus providing an insight into the development of human language, since without its relatively imprecision and flexibility language would not have been used a way of communication and thought. It follows that most specific concepts do not differ in kind but only in degree of schematicity, having concepts that serve as an elaboration of more highly schematic concepts (Tuggy, 2007)

In Lakoff's work, the use of the concept of schema is different. He rarely refers to schemas in the general sense, he makes reference to the related term “image schema” which he characterises as relatively simple structures that constantly appear within our own bodily experience (Tuggy, 2007). These could be considered schemas within Langacker’s work, but only in the sense that they are relatively simple. Some of the characteristics that draw Lakoff’s attention are their constant recurrence within bodily experience and direct meaningfulness. Furthermore, their gestalt-like nature, as they are based in sensory input, reinforces Lakoff’s view of image schemas as “central truths”. A general definition of the concept goes as follows: “an image schema is a condensed description of perceptual experience for the purpose of mapping spatial structure onto conceptual structure” (Oakley, 2007) putting emphasis on the relation to the perceptual nature of the gestalt to which is associated with.

It follows that categorisation and the levels of schematicity are based on the concept of the gestalts, as they need this whole of perceptual experience in order to take place, since without the gestalts that underlie the cognitive processing of humans, conceptualisation would not be possible. Furthermore, the Gestalt approach supports the view that grammar does not rely on absolute rules, but rather involves the flexible patterns and notions like partial similarity, or partial mapping to a pattern. The latter cognitive operations, reveal a certain degree of dependency on each other, though not complete due to their partial incompatibilities or not clear distinction between them. They represent in overall a unification of gestalts, and how at the basic level they are all driven by this whole perceptual entity.

2.3. Literal Meaning vs Non-literal Meaning

In the previous section, it was clearly said that words and other linguistic units can be considered as prompts for the construction of meaning. Thus, language itself does not encode meaning but rather functions as an access point to different levels of conceptualisation and , therefore, to different levels of meaning. According to Kristin Börjesson (2011), there are two systems involved in the interpretation of natural language expressions, the semantic and the pragmatic. The first one deals with the lexical meaning of the individual expressions used in a particular utterance, being the semantic meaning of an utterance the resultant combination of

these discrete parts. Then, the semantic meaning serves as an input for the second system, which is the pragmatic. At this level, what matters is to interpret and understand what the utterer means in a certain context at the moment of saying his words.

In this manner, meaning can be divided according to these two levels, that is to say, in 'what is said' and 'what is meant', being literal meaning part of the first, whereas non-literal meaning can be present only at the level of 'what is meant' (Grice, 1994). However, this differentiation was considered as problematic in later studies, due to 'what is said' functioned not only as the semantic meaning of an utterance but also as the basis for conversational implicatures (Börjesson, 2011) . For that reason, a third level was considered and separated from the semantic one, and it was a *context-dependent* level that can serve as a prompt for further pragmatic inferences. Although it has been difficult to situate exactly at which level literal and nonliteral meaning are originated, the traditional approach has been fundamental to set certain delimitations. Then, according to Grice's terminology, it is assumed that literal meaning always comes first and non-literal meanings only appear "as a result of the literal meaning not fitting in the respective context" (Börjesson, 2011), that is to say, if the literal meaning of a particular utterance does not fit the context, a reinterpretation will be needed, resulting in a non-literal one.

Literal and nonliteral language, then, seem to be supplementary as the absence of the first gives rise to the second. Therefore, both concepts refer to different types of usage of language, the first being usually conceived as a direct "meaningful language, in which one word or concept is never understood in terms of a second word (or concept)". Also, it is considered as a linguistic expression that "is capable of fitting the world" and whose meaning is the meaning itself of the expressions, "independent of any communicative situation" (Evans & Green, 2005). Opposed to this, traditionally, nonliteral meaning has been related to categories of language such as irony, sarcasm, metaphor and metonymy. These types of expressions have been generally named as figurative language, and they have been distinguished from the literal ones, as they usually are conceived as non conventional. This distinction is based on the assumption that quotidian language is conventional meanwhile the figurative one tends to be 'exotic' or 'literary', and it is used mostly with a literary or creative purpose (Evans, 2005). Following this line, then, most ordinary language should be considered as literal; notwithstanding, what happens seems to be the

opposite. According to Gibbs (1994), the traditional view of this issue is not appropriate because "human cognition is fundamentally shaped by various poetic or figurative processes". Thus, figurative expressions are not "linguistic distortions of literal mental thought but constitute basic schemes by which people conceptualise their experience and external world", everyday talk reflects "people's ability to think in ways that go beyond the literal" (1994: 3).

Two of the most largely known 'figures of speech' or 'tropes' considered to be part of non-literal language are metaphor and metonymy. Kövecses (2010) claims that there is a widespread notion that "it is the creative genius of the poet and the artist that creates the most authentic examples of metaphor" (p. 49). However, he counterarguments that the idea is only partially true as everyday language and the conceptual system contribute largely to the work of the artist. Furthermore, he says that even though metaphors and metonymies are original in literary language, they are less frequent in literature than in the everyday ordinary conceptual system. Thus, the myth that metaphor and metonymy is only part of poetic and non-literal language is criticised by cognitive semanticists, who propose that the so called 'non-literal' language is pervasive in everyday life (Lakoff & Johnson, 1980).

There have been several approaches to understanding these two phenomena of language, beginning in the ancient Greece up until today. In Cognitive Linguistics, metaphor and metonymy are viewed as conceptual processes that appear in language as reflections of the organisation of the underlying conceptual system. Lately, there have been approaches that aim to illustrate the interaction between metaphor and metonymy, trying to identify which one originates and motivates the other, and authors such as Goossens have proposed the metaphtonymy phenomenon (Evans & Green: 2006). However, for the sake of defining and differentiating them, metaphor and metonymy and their traditional views will be referred to separately.

Metaphor has been one of the topics most widely studied since ancient Greece. The study of metaphor belonged to the discipline of Rhetorics and since Aristotle it has been identified as an implicit comparison (Evans & Green, 2006). Metaphor is distinguished from Simile, as the latter is a mechanism that establishes a comparison explicitly by the use of the markers *as* or *like*. In metaphor, therefore, the comparison is not made explicit and there is a perceived resemblance

between the categories involved in the so called 'trope'. For example, metaphor is presented in *Achilles is a lion,* and simile presented in *Achilles is brave, like a lion* (Evans & Green, 2006).

Metaphor has been long represented by the schematic form A is B, and this would be later translated into a type of relation in which A is understood in terms of B (Evans & Green, 2006). However, as Lakoff and Johnson (1980) noticed, metaphors do not necessarily make use of the form A is B as exemplified in expressions such as *We're stuck* or *We're just spinning our wheels*. In fact, Lakoff and Johnson's views of metaphor challenged the traditional views in the sense that they claim that "metaphorical language appears to relate an underlying metaphor system, a 'system of thought'"(Evans & Green, 2006: 294). The implications of this theory is that metaphor is present on a daily basis in actions, language and thought; these are a reflection of the human conceptual system. Therefore, if the thought system is metaphorical, and if it works that way, it is not strange that language is also metaphorical. Thus, if we consider the examples already presented, it can be claimed that LIFE is conceptually understood as a road or a journey. That is why the expression *We're stuck* is metaphorical, as the fact of being stuck in life or without further advancing is perceived as being stuck on a road. This would mean that humans understand and conceptualise life in terms of a journey.

These observations led Lakoff and Johnson to come up with the Conceptual Metaphor framework. In *Metaphors we live by,* they state that metaphor is a process which contemplates two different conceptual domains, most likely unrelated. One of the domains serves as a *source* concept and the other as the *target* concept. The target domains is the domain that is being described by the source domain. They exemplify this relation in the metaphor TIME IS MONEY (1980). What occurs between these two domains is a mapping, where the characteristics and elements of one domain are directed towards the other. Thus, returning the previous example, the conceptual link underlying *We're stuck* is the metaphor LIFE IS A JOURNEY. In this sense, life is the target domain as it is being understood by journey, the source domain. Therefore, Conceptual domains A is Conceptual domain B, however, Evans & Green state that "this [formula] is simply a convenient shorthand for a series of discrete conceptual mappings which licence a range of linguistic examples" (2010: 295). The justification for establishing such claims is that conceptual metaphors are grounded in the nature of everyday interaction with the world and, thus,

metaphors have an experiential basis. Therefore, the kind of correlations established by metaphors are experienced on a daily basis and give rise to the formation of associations at the conceptual level (Evans & Green, 2006).

In relation to metonymy, Lakoff and Johnson (1980) have also long referred to it as a conceptual mechanism that is as central to human thought and language as metaphor. Thus, they also developed the notion of the Conceptual Metonymy. Metonymy has been traditionally considered a linguistic trope, therefore part of non-literal language. However, Lakoff and Johnson's claims support the idea that metonymy is conceptual in nature, but its basis is quite distinct from that of metaphor (Evans & Green, 2006).

Kövecses (2010) refers to metonymy,in relation to Lakoff and Johnson's proposals, as "the use of one thing or entity (...) to indicate, or to provide mental access to, another entity". (p. 172). To illustrate this definition, he recalls the one of the examples provided by Lakoff and Johnson's work in 1980 that is *I'm reading Shakespeare.* It follows that *Shakespeare* stands for one of Shakespeare's works, establishing a relation recognised as THE PRODUCER FOR THE PRODUCT. Then, metonymy is known as a conceptual relation of the 'X stands for Y' type, and that there is a sense of contiguity, i.e. a close relationship between two entities.

A clearer distinction between metaphor and metonymy is the fact that metonymy is not a cross-domain mapping, but that rather one entity can stand for the other as both entities coexist within the same conceptual domains (Evans & Green, 2006). Thus, metonymy would involve the use of a *source* or a *trigger* term (Coulson & Oakley, 2003), also known as the *vehicle,* which is the concept that "provides mental access to another conceptual entity, the target within the same domain, or idealised cognitive model (ICM)" (Kövecses, 2010: 173). This means that the vehicle directs the attention, and the target is the identity to which attention is provided (Kövecses, 2010). Thus, in the example *I'm reading Shakespeare,* Shakespeare is the vehicle entity whereas his works are the target entities. Metonymy is considered by some to activate or highlight certain aspects of a domain (Evans & Green, 2006), and in this case what is highlighted is that Shakespeare is the author of the works that are being read.

The basic idea that underlies the previously mentioned assumptions is that metonymy is referential, as Langacker (2000) states by saying that metonymic language is a reference point

phenomenon. This means that metonymy is a "linguistic construction in which a cognitively salient discourse element (the reference point) is used to set up a context within which the conceptualiser can enter into contact with other less prominent entities in the discourse" (Coulson & Oakley, 2003: 51). Conceptual metonymies, therefore, would be motivated by communicative and referential effects. (Evans & Green, 2006).

Several types of metonymy have been proposed throughout the years such as PRODUCER FOR PRODUCT, PLACE FOR EVENT, PLACE FOR INSTITUTION, PART FOR WHOLE, WHOLE FOR PART, EFFECT FOR CAUSE, etc. (Evans & Green, 2006). Metonymy also plays an important role in Lakoff's theory of ICM's, as will be seen in the following section, due to the fact that it is an access mechanism that can account for stereotypes and salient examples present in given categories.

Metaphor and metonymy are conceptual processes that contribute to providing structure to the human conceptual system, and if language and thought reflect the nature of the conceptual system, then it is not strange that metaphor and metonymy are so present on a daily basis. However, these notions are quite recent and are contrasted to what ancient and classical thinkers have proposed by referring to metaphor and metonymy as non-literal language and, therefore, as rhetorical tropes or members of the figures of speech. This issue is discussed below.

2.4. Non-literal Meaning, Tropes and Conceptualisation

Traditional Ancient Greek approaches to linguistic meaning considered non-literal language as lively ways of expressing a content which was primary literal, e,g. 'lion' for 'brave', 'departure' for 'death', etc. (Ariel, 2002). The most distinguished role of non-literal language was rhetoric, this is, the use of linguistic features to make public and writing discourse more efficient and convincing for a specific audience (Carston, 2012). Following the dominant convention of cognitive semantics, these linguistic features are characterised as, (1) *figures of speech* (irony, hyperbole oxymora, litotes, etc.) as a broad category and (2) *tropes* (metaphors and metonymies) as a narrower category of the former one (Nemesi, 2007). The problem with traditional tropologists was that they only focused on the ornamental nature of *tropes* and they overlooked their cognitive value which is present not only in everyday language and thought but

also it is highly relevant in many areas of human knowledge such as philosophy, mathematics, arts, science, etc. (Gibbs, 1993).

Later on, some romantic rhetoricians such as Vico and Ramus argued that humans conceptualise experience through figurative schemes of thought and that these schemes (*tropes*) were constitutive of human consciousness and experience (Sperber and Wilson, 1990). Even though these scholars anticipated the current state of psycholinguistics, the classical view re-emerged through the work of Paul Grice (1967). He believed that speakers and listeners expect each other to interpret what they express as if they were cooperating with the understanding of each other's speech (*cooperation principle*). This principle says that human interaction is based on several communicative norms which he called 'conversational maxims'. When the interaction is being produced, these maxims are supposed to orient speakers to make language always as *informative*, *relevant*, *truthful* and *unambiguous* as possible. In Grice's theory, listeners achieve conversational inferences by first analysing literal meaning of the utterance. Second, they evaluate the relevance of the utterance against the context. Third, if the utterance does not fit with the context, this is, if the utterance violates one of the conversational maxims, listeners move to an alternative non-literal meaning so that the utterance may be consistent with the cooperative principle. In Grice's account, non-literal language use is seen as an indirect means of communication, therefore, whenever a speaker resorts to using figurative speech (metaphors, metonymies, hyperbole, irony, etc., they would not be saying what they mean but referring indirectly to something else. This assumption implies that in every instance of figurative speech the speaker is saying something false or irrelevant, therefore violating the cooperative principle,and, whenever the hearer (or the audience if it is the case) faces figurative language, they would perform an inferential process to reconstruct the other person's intended meaning.

But as mentioned previously in section 3., the traditional view on non-literal meaning presents some assumptions that have been undermined by later work on meaning comprehension within the cognitive linguistic framework.

First, some experiments have proved that obligatory analysis of utterances' literal meaning does not come before the determination of figurative meaning. Listeners or readers can usually

understand non-literal language use (metaphor, metonymy, sarcasm, idioms, indirect speech, etc), without analysing first the literal meaning of the utterances. (Gibbs, 1982, 1984, 1989; Gibbs & Gerrig, 1987; Hoffman & Kemper, 1987). Second, in the traditional view, defective literal meaning has to be found before the listener moves to the non-literal meaning. But empirical studies suggest that non-literal meaning is apprehended even when the literal meaning is not defective at all (Glucksberg, Gildea & Bookin, 1982; Shinjo & Myers, 1987). Finally, the assumption that additional inferential processes must take place to achieve figurative meaning so to fit the context of the utterance has been proved not to be that accurate. Psycholinguists have noticed that metaphors, metonymy, irony and indirect speech acts require the same amount and type of contextual information as literal expressions. (Gibbs, 1986a; Gildea & Glucksberg, 1983; Keysar, 1989; Ortony, Schallert, Reynolds, Antos, 1978).

Another view on the understanding of non-literal meaning comes from Sperber & Wilson's Relevance Theory (1986/95). This theory is based on the Grice's claim that utterances creating expectation guide the listener towards the speaker's meaning. Relevance theorists, as its very name indicates, focus on one particular aspect of Grice's account which is *relevance*. In this theory, the understanding of utterances is basically guided by two principles: Communicative principle (relevance is a potential property of utterances) and the Cognitive principle (searching for relevance is a basic feature of human thought). Thus, expectation of relevance raised by utterances are necessary enough to guide the listener to the speaker's intended meaning. This is not only because of the nature of utterances themselves but due to the fact that human mind has the tendency to always maximise relevance (Wilson & Sperber, 2003).

Giora's *graded salience hypothesis* (1997, 1999, 2002) suggests that regardless contextual information, both the literal and non-literal meaning can be activated, implying that both types of meaning present the same status. Thus, the interpretation of a given utterance would depend on its degree of *salient/not salient* meaning. In this dichotomy, she states that salient meanings will be always activated whether they were intended or not. For Giora, salience and familiarity are used as interchangeable terms to talk about the degree of conventionality in meaning. The study of Giora and Fein (1999) for instance, tested the activation of meaning during the interpretation of familiar and unfamiliar metaphors and idioms. Results suggested that once these non-literal

expressions have become familiar, they can be computed in parallel to the literal meaning. For Börjesson (2011), Giora moves away from the distintion of literal/non-literal meaning by taking conventional/non-conventional dychotomy as a division that cuts across that distinction. She states that even though a given meaning may be considered literal or non-literal, the crucial point is the following: if that particular meaning is notoriously salient, then, it can be assumed that the meaning is coded in the lexicon and as part of the conventions of language.

For cognitive linguists, *tropes* (mostly metaphors and metonymies) are seen as natural phenomena which are present in everyday thought and language, therefore, conducting experiments on non-literal language is highly valuable and worthy (Lakoff & Johnson, 1980; 1999; Lakoff & Turner, 1989). This idea contradicts the traditional account of literal meaning because it was assumed that literalness constitutes the main part of a language whose use is for referring to abstract meaning, and that grammar was entirely literal and it did not include any metaphorical concept. But studies such as, Barcelona, (2000), Kristiansen et al. (2006) and Kövecses & Koller (2006) have undermined this traditional assumptions, claiming to be wrong. Ortony (1993) and Lakoff (2006 [1993]) have stated that there is a continuum between literal and non-literal meaning. This assumption is based on the idea that metaphor often takes metonymic structures as basis, and, since metonymies can often act non-figuratively and figuratively, it can be said that there is a continuum from literal, non-literal, and figurative meanings. Thus, and taking into consideration the fact that language is mostly organised through this conceptual structures, the distinction between literal and non-literal expressions becomes more or less useless (Pasamonik, 2011).

Another aspect of language that supports the idea that the distinction between literal/non-literal meaning presents fuzzy boundaries has to do with the way linguistic meaning is organised. In the one hand, this idea can be reflected through the cognitive linguistic principle of *encyclopedic meaning* which says that every given concept has "indirect", non-referential or additional meaning that is being prompted by the relation between the concept being referred and one's world knowledge. For instance, when dealing with the expression *'marriage'*, people tend to conceptualise it differently depending on the way they have experienced the concept. For some of them, additional meaning would carry concepts such as 'boredom', 'tediousness',

'joyful', 'dancing', 'special clothes', etc. For this principle, meaning is not perceived as truth conditional or objectively referential, but as a combination of world knowledge and cognitive structures concerning conceptualisation processes (Haiman, 1980). On the other hand, breaking with the aristotelian tradition that sees entities being categorised into groups if they share common features of properties, cognitive linguistics also presents another idea that supports the main claim of fuzzy boundaries of linguistic meaning and this has to do with the a *prototypal* view on meaning rather than a *categorical* one. Prototypical theory for Rosch (1978) and Lakoff (1987) says that (1) categories are constituted of prototypical or central members that meet the characteristics of these categories and (2) members which do not, this is, objects that are more peripheral to the central members and are gradually distanced from the properties of the prototype. Therefore, the fact that cognitive linguists see categories as having fuzzy boundaries between them argues in favour of the continuous view on the character of meaning.

Within the cognitive linguistic paradigm, non-literal meaning can be approached through Lakoff's *Idealised Cognitive Models* (ICMs) in the sense that these mental structures serve as cognitive basis in which the different non-literal meanings can be built. He makes the distinction between *simple ICMs* (e.g. propositions, image-schemas, metaphors and metonymies) and *tropes* (cognitive models with specific meaning and contextual effects that go beyond ICMs.) such as irony, paradox, oxymoron, hyperbole, euphemism, etc. For Ruíz (2009:131) these tropes can be divided into two groups: simple and complex tropes. In the one hand simple tropes are those tropes in which additional meaning is build upon propositional ICMs. (e.g.: *This suitcase weighs a ton*). In this type of trope speakers and listeners do not need more than one mental operation to elaborate meaning (reinforcement) and achieve interpretation (mitigation) respectively. In the other hand, complex tropes are those in which additional meaning is built upon representational ICMs such as metaphor, metonymy and image-schemas and they involve more than one mental operation. For instance, in the expression *'I'm dead!'*, meaning 'exhausted, tired', the operation of reinforcement results from a correlation operation which is the metaphor TIREDNESS is DEATH. This correlation arises from the fact that when a person is very tired, body motion is reduced due to a lack of physical energy and eyes tend to close as if they were a dead body.

Within the discussions about the distinction between literal and non-literal meaning, contemporary scholars have been giving more emphasis on the study of non-literal meaning. Considering this aspect of language as a relevant matter, cognitive linguistics has developed specifics areas of study that deal with some of the correspondences mentioned before (metaphor, metonymy, image-schemas). One of the most widely operation being studied is metaphor because of its role for the understanding of how the conceptual system is organised and its relevance for the way mind and brain operates. This will be discussed in the following section.

2.5. Cognitive Linguistics and Metaphor

2.5.1. Basic considerations of the Conceptual Metaphor Theory

From the perspective of Cognitive Linguistics, several discoveries within Metaphor Theory have been developed. An important landmark in this line of inquiry is the introduction and explanation of the Conceptual Metaphor Theory, made by Lakoff and Johnson in their book *Metaphors We Live By* (1980, 2003).

Conceptual Metaphor Theory arises from the assumptions of Experiential Realism philosophical view of language. This view assumes that even though human cognition purpose is to address reality as a matter of species survival, it is constrained by the environment and embodiment, thus language as a product of cognition, does not give an account of reality itself but of human perception and construal of it. Moreover, Lakoff and Johnson argue "that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system… is fundamentally metaphorical in nature" (p. 8). It means that human perception as limited by the cultural context and physicality, is governed by metaphoric principles that are present at every level of human interaction and definition of reality, i.e., from perception, concepts and thought to communication and action.

From this point of view, human awareness of the cognitive processes that shape their understanding of reality and language use is unconscious, and as communication actions are a consequence of the operations of human underlying cognitive structure, Lakoff and Johnson propose that "Since communication is based on the same conceptual system that we use in thinking and acting, language is an important source of evidence for what that system is like." (p.

8). Then, if language is proven to be metaphorical, it is understood that the conceptual system that sustains it is metaphorical too. This is illustrated by means metaphorical of the concept ARGUMENT IS WAR that is expressed in a variety of forms in everyday language such as "your claims are *indefensible*", "He *attacked every weak point* in my argument. His criticism were *right on target*", "I *demolished* his argument", "I've never *won* an argument with him", and so on. (Lakoff & Johnson , 1980, p. 9).

These examples reveal that even when they are part of our speech, they are as well parts of our actions: "We can actually win or lose arguments. We see the person we are arguing with as an opponent. We attack his positions and we defend our own. We gain and lose ground. We plan and use strategies. If we find a position indefensible, we can abandon it and take a new line of attack." (Johnson and Lakoff, 1980, p. 9). In other words, when arguing, part of the behaviour and language expressions used by humans comes from the concept of war. This "stand-for" relation constitutes the core of Conceptual Metaphor Theory. It shows that the conceptual system is not made by isolated, unilateral components waiting to be used for filling a gap in a meaning relation but that components or concepts are already a relation between domains (in the previous example ARGUMENT understood in terms of WAR), that constitute the basis for linguistic as well as cultural meaning elaboration.

Furthermore, Lakoff and Johnson state that the language we use when referring to an event is systematic as it is sustained by conceptual metaphors that are consistent in our cognitive system. This metaphors can be studied through the linguistic use of them. That means that from the vocabulary and structures people use to speak about certain theme, the conceptual metaphor that underlies that specific use can be traced back. In the case of ARGUMENT IS WAR, the common constructions that use words such as "attack a position, indefensible, strategy, new line of attack, win, gain ground, etc." (p. 11) gives us a hint for discovering that the source domain ARGUMENT is being understood in terms of WAR, thus war related words are used. This systematicity of metaphors that allows a domain being understood in terms of other resides in the possibility of focusing - or highlighting - the pertinent aspects for sustaining the metaphor in the domains, while hiding others. In the case of the argument, Lakoff and Johnson say that "For example, in the midst of a heated argument, when we are intent on attacking our opponent's

position and defending our own, we may lose sight of the cooperative aspects of arguing." (p. 13) this is, the activity and language is centred on those aspects that unify somehow argument to war, and the singularities of arguing are left aside in favour of the metaphorical construction. In this sense, it is concluded that the metaphorical relation between two domains is made by means of mapping characteristics of the source domain into the target domain, e.g. the physical place of the debate that is the target, is understood as a battlefield (the setting for war) that is part of the source concept.

Metaphors are grouped by these authors in different types as the *structural metaphors* of the kind of ARGUMENT IS WAR in which a concept is structured in terms of another. Other kinds of metaphor are *orientational metaphors*, in which a whole system of concepts is organised in terms of one another (e.g, up-down, in-out, front-back, on-off, deep-shallow, central-peripheral), *ontological metaphors*, which refer to human understanding and categorisation of experience and fuzzy things as objects and substances beyond the scope of physical orientation, for example when delimiting a geographical frontier. There are many types of ontological metaphors like: referring, quantifying, identifying aspects, identifying causes, setting goals and motivating actions, container metaphors, the visual field, personification, etc. A common characteristic between them is that they are tightly related to higher cultural values and fundamental concepts in society. The example given by Lakoff and Johnson for this is formed by a set of social expressions related to UP- DOWN spatialisation metaphors as:

1. "More is better" is coherent with MORE IS UP and GOOD IS UP. "Less is better" is not coherent with them.
2. "Bigger is better" is coherent with MORE IS UP and GOOD IS UP. "Smaller is better" not coherent with them. (p. 21)

2.5.2. Characteristics and Mechanics of Conceptual Metaphors

In addition to the cultural aspect of metaphor, there are a series of important characteristics and conclusions from Lakoff and Johnson's work that are vital for understanding

it in detail. Hereafter, those technical issues that had been not mentioned above, would be exposed as summarised by Vivian Evans and Melanie Greens in their book *Cognitive Linguistics* (2006).

The first characteristic to be described is The unidirectionality of metaphor, which indicates that the mapping between the elements of the domains involved in construction of the metaphor go from source to target and not vice versa. For example, LOVE can be understood in terms of JOURNEY but the opposite is not conventionally accepted.

The second is the 'Motivation for target and source'. This principle states the existence of a pattern which determines which concepts are more likely to be sources or targets and possibility and motivation that they have for being such. and Lakoff and Johnson's explanation for this is that "target concepts tended to be more abstract, lacking physical characteristics and therefore more difficult to understand and talk about in their own terms. In contrast, source domains tended to be more concrete and therefore more readily 'graspable.' "(p. 319).

A third characteristic is named as 'Metaphorical entailments', and indicates that some mappings carry additional information that are known as entailments or inferences "because aspects of the source domain that are not explicitly stated in the mappings can be inferred." (p.319). For example, in the expression "I *got lost* in the argument", associated to the conceptual metaphor AN ARGUMENT IS A JOURNEY, it is implicitly understood or inferred that 'I' that is a 'participant' in the argument became a 'traveller' of the journey that is equivalent to 'journey'.

The fourth, 'Metaphor systems' is the property of metaphors which says that if metaphors interact between them can give rise to 'complex metaphor systems' in which schematical metaphors together conform more specific kinds of metaphor as LIFE IS A JOURNEY. In this metaphor the source 'life' is not linear as the target 'journey' suggest, but is indeed a summation of steps or goals in life, that make up an only 'journey.'

A fifth characteristic is 'Metaphors and image schemas', that is Lakoff and Johnson's proposal that image schemas could serve as source domains in metaphoric mapping. In this sense, it is understood that as image schemas come from human preconceptual experience, they

constitute a key element at the conceptual level of human perception, because they seem to be present in thought and reasoning when categorising information and interpreting metaphors.

Finally, 'Interpreting Invariance' refers to certain principles that constrain the metaphoric mappings. In this respect, Lakoff proposed the 'invariance principle': "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." (Lakoff, 1993, p. 10). This means that there is a coupling process between the image schematic structure of the source with that of the target that allows a coherent interpretation of the relation.

However, there are cases in which this coupling process between the source and target seems to be nonexistent or regulated by processes different than the metaphorical. It has been argued by some authors that in this cases, metonymic processes regulate the source and target relation instead of metaphor.

2.6. Metaphor and Metonymy: Differences and Points of Convergence

Metaphors and metonymies are cognitive operations that have been widely compared and contrasted since they started to be studied within the realm of cognitive linguistics. Throughout the years, several researchers and authors have characterised these two processes according to different perspectives and focus; nevertheless, they generally share some points in their definitions. Although the cognitive processes related to both concepts are similar in nature, they are two poles or two basic manners of thought reflected in human behaviour and in language (Jakobson, 1971). Thus, as two poles, not only are they similar in their functions but also differ from each other.

Several authors have referred to the aspects these two operations share and to the points in which they seem to be compatible. That being so, metaphoric and metonymic constructions can be conceived as two distinct means for "generating new meanings for existing expressions" (Bartsch, p. 49). They can be described as 'mental mechanisms' (Barcelona, 1998) and as conceptual mappings that set correspondences across domains (Lakoff, 1987). For that reason, there are circumstances where one expression can be considered as metaphor or as metonymy, as these two forms of understanding are not mutually exclusive (Bartsch). Following this line, they

are thought to base their functions in the same cognitive operations, as they take part in the processes of conceptualisation of the world (Bartsch). Even though they are two distinct operations, they possibly share as one common underlying principle the conceptual contrast, that is to say, they share "the interplay of conceptual distance and closeness, or vice versa" (Dirven, 1993, p. 92). Furthermore, in the conventional conceptual system, both metonymy and metaphor can be considered as mental operations that connect different constituents; the two of them having the possibility of occurring as novel forms in discourse and in the conventional conceptual system. Moreover, they can be found at various levels of schematicity and they seem not to be domain specific, in that sense, they are not restricted to any specific functional domain (Barcelona, 1998).

Nonetheless, metaphor and metonymy "not only involve a mapping of conceptual network from source domain onto target domain […] but also involve a shift in perspective which makes possible the mapping from one domain to the other by selecting suitable aspects of the source network" (Bartsch, p. 50). It is actually in the nature of the mappings and the type and quantity of domains involved where metaphors and metonymy differ from each other. As Lakoff and Johnson previously said, in metaphor there are two domains involved but in metonymy only one (1980), thus, in metaphor there are two distinct and separated domains whereas in metonymic mappings there is a domain-subdomain relation (Lakoff 1987). For instances, in the metaphorical expression *the pearls of your smile,* the teeth of a person are seen as "pearls". Both concepts belong to different domains and the source concept (PEARLS) can be connected with the target concept (TEETH) due to both of them share the whiteness of the teeth, however, they are not intrinsically conceptually related. In the case of metonymy, generally a subdomain highlights or takes as reference an aspect of the domain, for example, in the expression *the trumpet has left the stage*, the instrument stands for the musician that plays it, functioning the TRUMPET as a subdomain that sanctions the domain MUSICIAN, being the part for the whole, an entity for a salient attribute. Continuing with metaphors, precisely in the case of them, the mapping involve a source domain onto a corresponding target domain (Lakoff & Johnson, 1980), it is a process where "two elements are brought together but the source domain loses its existence when mapped onto the target domain […] and some aspects of its own nature or structure are

transferred to that target domain" (Dirven, 1993, p. 100), besides in metaphors, the source and target are not necessarily included by the same functional domain (Barcelona, 1998). In the case of metonymy, the mapping of corresponding structures takes place within a single domain which can be a frame or ICM (Lakoff & Johnson, 1980), therefore, two related subdomains or domains are construed as one domain matrix, maintaining their existence and construing a system of contiguity (Dirven, 1993), being in certain cases linked by a pragmatic function (Barcelona, 1998).

Apart from that, another difference between metaphoric and metonymic constructions can be linked to paradigmatic and syntagmatic principles that are connected to these mental mechanisms. In first place, a metaphor can be characterised as a paradigmatic operation based on "the selection and substitution exploiting similarity and contrast" (Dirven, 1993, p. 77). The metaphoric meaning is grounded on substitution and similarity, while the metonymic one is based upon predication, contexture and contiguity (Jakobson, 1971) which can be seen in the relationships of part-whole, cause-effect, means-end, action-result and instrument-action, among others (Bartsch). Moreover, metonymy as a syntagmatic mechanism is able to associate to any element which have a 'natural' link with each other without a figurative process taking over necessarily (Dirven, 1993); not as metaphor where it always present the figurative meaning. Thus, distinct types of metonymies differ from each other and from metaphor in the degree of ad hoc or permanent shift in meaning and in their non-figurative and figurative character (Dirven, 1993).

An additional manner in which metonymy and metaphor can be understood is by conceiving the first as a cognitive mechanism whereby one experiential domain is partially understood in terms of another domain, both sharing the same experiential domain (Barcelona, 1998). Thus, it can be seen as a through connection in where a target domain is highlighted; as it is is partially conceptualised by mapping onto it the source domain included in the same common domain (Barcelona, 1998). Although in metaphors also one experiential-based domain is partially understood in terms of the first one, essentially, what makes a metaphor mapping distinct from a metonymic one is that the domains that are mapped belong to different superordinate domains (Barcelona, 1998). Besides, the difference and disparity between the

domains is often so great that can only lead to full substitution of one domain for another (Dirven, 1993). At last, metonymy can be simplified to a conceptual relation where "y" stands for "x" and metaphorically speaking would be "y" understood in terms of "x" (Evans & Green, 2006).

As it was seen previously, metaphors and metonymies have been traditionally compared and contrasted, being considered as compatible cognitive operations that are not mutually exclusive. This has opened a gate for studying the interaction that both mechanisms have when they work in conjunction. First of all, due to the kind of mappings that metonymy and metaphor have, the former is actually the one that is subordinated to conceptual interaction to metaphor (Diez Velasco, 2002). Thus, there are two types of interactions that have been considered as a kind of 'Metaphtonymy', a term proposed by Goossens, which are the metonymic conceptual motivation of metaphor and the metaphorical conceptual motivation of metonymy (Barcelona, 1998). In the former, the metaphor is founded in the metonymic relationship and in the latter; it is a metonymy within metaphor (Evans & Green, 2006). When a metaphor is metonymically motivated, the target-source relation relies on a natural relation of similarity between two discrete domains, which is based on recognition that A and B are contiguous within the same domain (Goossens, 1990). A suitable example for this is the previous mentioned expression *the pearls of your smile.* Here, the colour of the PEARLS sanctions a feature of the TEETH, which is the whiteness of it. Therefore, what connects the two discrete domains is the physical similarity that exists between both concepts, however, the understanding of whole the expression is only possible if it does metaphorically. Although metonymies metaphorically motivated exist, according to Goossen, these cases are 'rare' and 'conceptually more difficult'. As a metaphor involve the mapping of two distinct domains, the presence of it within a metonymy tend to 'metaphorise' the whole expression (Goossens, 1990). The idiom provided by Goossens, *get up on one's hind legs,* not only supports the existence of these type of expressions but also the complexity of them. Metonymically speaking, the parts (hind) stands for the whole (horse), nonetheless, this does not explain why this alludes to the action of *getting angry or assertive.* Actually, what enables people to understand the expression is the possibility of mapping the 'excitement' of the animal to the anger of a person. It is here when metaphor plays its role within

metonymy, as it links the reaction of an animal, which is from a distinct domain, to the state of mind of a person. For that reason, this expression without its metaphorical basis would not have any figurative meaning.

The existence of metaphtonymies not only prove that between metaphors and metonymies there are not strong boundaries but also that there is a constant interaction and interplay between them. Thus, considering that primary metaphors have a metonymic basis it seems feasible that all types of metaphors are ultimately motivated by metonymy (Evans & Green, 2006) which strongly supports the idea that they can function in conjunction and seem not to be mutually exclusive.Then, the emergence of figurative meaning is not subjected to two rigid manners of operating cognitively, in fact, it can also be the result of complex processes of combinations and interactions between metaphors and metonymies.

2.7. Blending and Metaphors

Blending Theory (a.k.a. Conceptual Blending Theory, Conceptual Integration Theory, or Many Space Model) is an extension of two previous theoretical strands: Conceptual Metaphor Theory and Mental Spaces Theory. It was initially modelled by Gilles Fauconnier and Mark Turner (2008), as they realised that some aspects regarding construction of meaning could not be accounted for by the aforementioned theories. The most fundamental proposal within Blending Theory is that construction of meaning is a process of conceptual integration, which results in a 'blended space' that is more than the mere aggregation of the original structures. Thus, meaning construction is said to feature 'emergent structure'. (Evans & Green, 2006; Evans, Bergen & Zinken, 2007; Evans, 2007; Fauconnier & Turner, 1998; Geeraerts, 2006; Geeraerts & Cuyckens, 2007; Schmid & Ungerer, 2011).

Initially, since the early development of Conceptual Metaphor Theory, authors like Lakoff and Johnson proposed, most notably in their seminal work *Metaphors We Live By* (1980), that metaphors are not merely rhetorical devices, but rather that "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (p. 3). Their view is that conceptual structure is built around processes of conceptual projection that feature 'mappings' between conceptual domains, as represented in Figure 2.7.1. Some of these

correspondences seem to be based on human experiences which are embodied and sometimes even pre-conceptual.

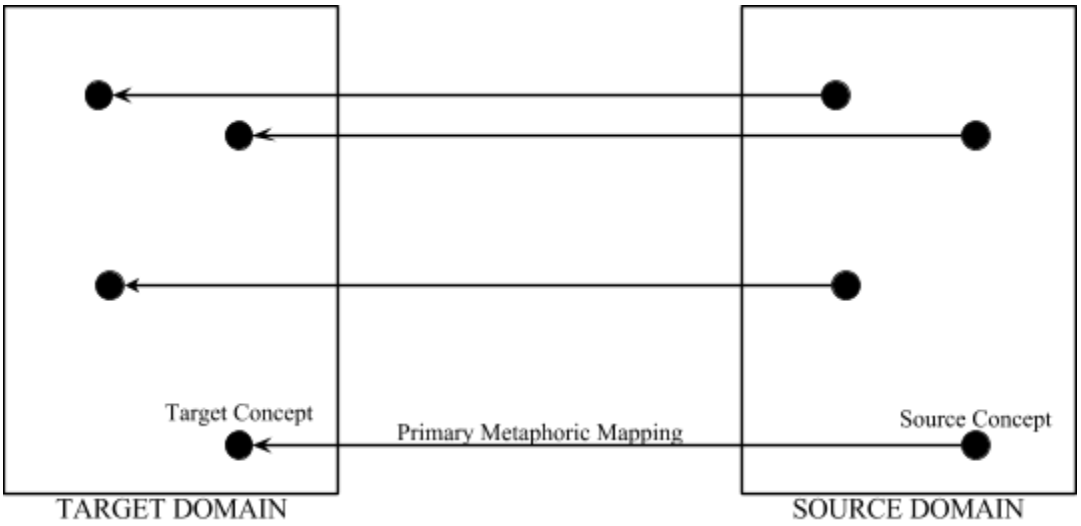


Figure 2.7.1 Conceptual Metaphor: cross-domain mapping between source and target (adapted from Evans & Green, 2006)

This model, of course, assumes a unidirectional process of mapping that goes from source to target concepts between the two domains.

Afterwards, along a parallel theoretical thread, proponents of Mental Spaces Theory put forward the notion that as human thought and speech unfolds, 'mental spaces' are set up, which consist of temporary structures borrowed from both immediate discourse and entrenched mental structure. These mental spaces serve as scaffolding for developing linguistic creativity and on-line interaction. (Fauconnier, 1985).

Within Blending Theory, then, the fundamental question of how meaning is constructed is approached from a joint theoretical perspective. The proposed construct of a blended space, however, fails to be explained from either of the two original theories. Thus, a new model is proposed, that of the 'integration network'. In this network, three types of mental spaces are disposed (input spaces, a generic space and a blended space) in such a manner that conceptual structures from two or more input spaces are integrated into a new emergent structure, which is

illustrated in Figure 2.7.2. The mapping between domains is alleged to be a process of matching the corresponding counterparts from the input spaces. The resulting structure is then projected selectively onto the blended space (Evans, 2007).

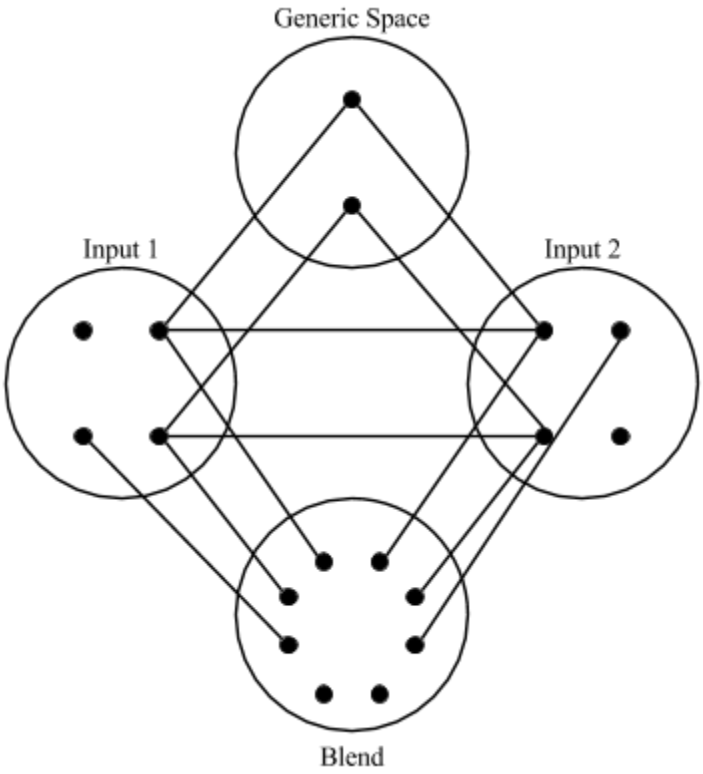


Figure 2.7.2 A basic integration network (adapted from Fauconnier and Turner, 1998)

This model evidently shares some similarities to that of Conceptual Metaphor, such as the mapping between source and target domains (in these case understood as spaces), and the unidirectionality of the process. However, both models understood as analogous to one another, the second being more elaborated, a gap is still left in terms of how source and concept domains interact with one another beyond the unidirectional mapping. Phenomena where the level of abstractness (or schematicity) of both concepts are equivalent are not accounted for. Therefore, the question remains about how the two spaces (or domains) are first selected as either sources or targets, and how is the direction of the process determined by the features of the spaces in order to create a generic space, and finally an emergent structure.

2.8. Metaphor and Directionality

2.8.1. The Unidirectionality of the Conceptual Metaphor

Metaphor is one of the most widely discussed topics in Cognitive Semantics, George Lakoff being one of the main forerunners of studies on Metaphor, especially due to his Conceptual Metaphor framework, proposed in *Metaphors We Live By* together with Mark Johnson, with subsequent editions and publications of related articles.

The first remark made by Lakoff and Johnson (1980) is that metaphor is pervasive in everyday life, not just in language but in thought and action (see section 2.5), and that our conceptual system is metaphorical in nature. This is therefore, as it has been already explained heretofore, associated to the fact that language derives from our embodied experience. This embodied experience, as expressed by Evans and Green (2006) has an effect on our cognition, generating an imprint in the mind. Therefore, embodied cognition implies that "we can only talk about what we perceive and conceive from the embodied experience" (p. 46). Consequently, if our thought system is metaphorical, it is not strange that language is also metaphorical, as mentioned elsewhere in this review. Therefore, Conceptual metaphor is based on the assumptions of embodied cognition and on the thesis that semantic structure reflects conceptual structure (Evans & Green, 2006).

The main notion of Conceptual Metaphor theory is that metaphor is established by conventional associations of one domain with another, or mappings. The motivation for these mappings resides at the level of conceptual domains (Lakoff & Johnson, 1980). In the mappings, there is a target domain that is understood by means of a source domain. This has led Lakoff and Johnson to claim that there is directionality in metaphor, or rather more specifically, unidirectionality. Evans and Green (2006) explain this issue of Lakoff and Johnson's theory as the fact that "metaphors map structure from a source domain to a target domain but not vice versa" (p. 296). This means that humans can conceptualise love as being a journey, but journeys cannot be conceptualised as love. This points out the fact that there is an asymmetry in the mappings (Lakoff & Turner, 1989). Furthermore, this asymmetry would still be reflected even when two different metaphors share the same domains, as in the case of PEOPLE ARE MACHINES

and MACHINES ARE PEOPLE (Evans & Green, 2006). What reflects the asymmetry is that these two metaphors involve distinct mappings, so what machines map onto people is not going to be the same that what people map onto machines. In the case of PEOPLE ARE MACHINES, the highlighted domains are usually related to intellectual abilities and performance as in the case of the examples found in Lakoff and Turner (1989; in Evans & Green, 2006: p. 297):

a. John always gets the highest scores in math; he's a *human calculator.*
b. He's so efficient; he's just a *machine.*
c. He's had a nervous *breakdown*

In the examples presented, the emergent structure is presented in the incorporated italics for the purpose of this study. Thus, it is seen that the efficiency and mathematical abilities typical of computers are mapped onto the human intellect as expressed by Evans and Green:"the mechanical and functional attributes associated in computers are mapped onto people, such as their speed and efficiency, their part-whole structure and the fact that they break down" (2006; p. 297). However, when the metaphor is MACHINES ARE PEOPLE, "it is the notion of desire and volition that is mapped onto the machine" (p. 297):

a. I think my computer *hates me*; it keeps deleting my data
b. This car has a *will of its own!*
c. I don't think my car *wants* to start this morning.

These examples clearly exemplify the fact that even when the same domains are involved in two different mappings, the emergent structure and the mapped elements are going to be different.

Another aspect of early Conceptual Metaphor theory is that target domains tend to be abstract, diffuse and that they would lack clear delineation (Kövecses, 2010). Target domains would present a higher degree of abstractness and they would thus need to be explained by means of a more concrete domain. Kövecses calls this relation between abstract and concrete

concepts the Principle of Unidirectionality, and it basically states that abstract domains are to be interpreted by means of a concrete domain, and not the other way around. However, new accounts and subsequent Primary and Compound Metaphor theory provide a different viewpoint on the abstractness-concreteness relation: there can be a mapping between two concepts that relate to a basic order rather to a higher one in terms of abstractness. Take, for example, the metaphor *This surgeon is a butcher.* In this case, surgeon and butcher are located in the same level of concreteness, therefore this contravenes the alleged Principle of Unidirectionality. It will be seen, thus, that the metaphor *This surgeon is a butcher* provides many exceptions to the up-to-date rules of Conceptual Metaphor, as it will be seen below.

Zoltán Kövecses in his second edition of *Metaphor: A practical Introduction* tackles the issue of directionality and comes to the conclusion that in most cases source and target domains are not reversible (2010) and that almost all conceptual metaphors are unidirectional. He refers to the fact that an *ill society* can be easily understood but that people would not normally conceptualise a *society of illness.* Nevertheless, Kövecses states that there are, in fact, metaphors in which source and target can be inversed successfully as the case of ANGER IS A STORM, and STORM IS ANGER (an angry person, more specifically). When these types of metaphors are reversed "there typically occur certain stylistic shifts in the value of the linguistic metaphors" (p. 28), resulting in not everyday expressions but literary or formal instead. However, he highlights some metaphors that look completely reversible which are *This surgeon is a butcher*, and *My home is a jail.*

Furthermore, Kövecses adds that reversibility seems to be commonly found in linguistic metaphors of the type A is B, where A and B are nouns . Kövecses refers to Glucksberg's study (1993) where he claims that these types of metaphors are based on subcategorisation and that they seem to work as long as the participating concepts are, basically, at the same level of abstraction. That is why it seems that surgeon maps onto butcher as successfully as butcher onto surgeon. Kövecses explains that these two concepts carry particular meaning specifications as source domains.

Some other authors have also referred to unidirectionality in recent work. Barcelona (2003) claims that metonymy is also unidirectional but that in relation to metaphor, there is a larger

number of reversible metonymies rather than of metaphors. He also adds that reversibility is not the same as bidirectionality. Gentner & Bowdle (2008) have also advocated for the unidirectional perspective. They propose the Directional Asymmetry and claim that people show strong directional preferences in metaphor and exemplify this by stating that it is seems far better to say *Some jobs are jails* rather than *Some jails are jobs.* They also add that "the strong directionality of metaphors has been used to argue that metaphors are essentially class-inclusion statements (which are clearly asymmetric) rather than comparisons" (p. 115). Furthermore, they add that inferences are also directional and understood to flow from base to target.

Although the bulk of the current literature about metaphor has not been completely devoted to directionality due to the fact that unidirectionality is one basic assumption, there are few attempts to make asymmetry and reversibility in metaphors a central issue.

2.8.2. Blending and Conceptual Integration Networks

As it was already mentioned in the section above, Blending and Conceptual Integration is a further stage of development of Fauconnier's theory of Mental Spaces. In short, it basically consists of at least two domains that serve as input spaces which interact with each other and give rise to new types of meanings. These new constructions are the blendings.

Birdsell (2014) explains that cross-space mappings between spaces creates new relations, which is the composition of a blend and "the input spaces selectively project into a blended space" (p. 75). The emergence of a new meaning is the final stage of the blending process, which is called elaboration. However, Birdsell mentions how Grady, Oakley & Coulson attempted to demonstrate that conceptual metaphor is not a theory that can sufficiently give accounts of what happens in conceptual integration. The already mentioned and popular metaphor *The surgeon is a butcher* was provided by these authors, and Birdsell presents how this example questions the conceptual metaphor theory:

> [The authors used this metaphor] To demonstrate that domain mapping of conceptual metaphor theory fails to explain metaphorical interpretation of the example, which is that the surgeon is incompetent (butchers are not necessarily incompetent). The show

how blending theory can account for such an inference through emergent structure. (Birdsell 2014: 83).

This means that other components such as inference need to be taken into account when interpreting a metaphor, due to the fact that not every single aspect in the domain is going to be mapped, and those that are mapped may have a certain meaning in the target domain that the source domain does not have. Therefore, following this idea, the conceptual integration networks may provide another viewpoint for this same phenomenon.

Fauconnier and Turner (1998) proposed that mappings between domains were only one of the many aspects of the conceptual integration phenomenon. In fact, the integration network theory starts from the assumption that there are two input spaces in which a mapping between spaces connects counterparts. What differs from Lakoff and Johnson's framework is that the structures of the integration network are mental spaces, and they are "small conceptual packets constructed as we think and talk, for purposes of local understanding and action" (p. 138). Conceptual metaphor refers to the embodiment of cognition and of the semantic structure and does consider contextual information as much as Fauconnier and Turner's theory does. As mental spaces are constructed online, metaphorical thinking also should inherit an 'on-lineness' quality in it.

What is of uttermost importance is the fact that the blend contains emergent structure not in the inputs (Fauconnier & Turner, 1998). Thus, inferences are taken into account in the construction of new meaning, inferences that could not have been found in the original input spaces but rather in the encounter of those two.

As it has been developed in the present and previous section , this theory challenges that of conceptual metaphor in the sense that it argues that metaphors are more similar to a process of integration rather than one of just one domain mapped onto another. Even though the issue of directionality of metaphor is not directly addressed, it sheds light onto a more of a bidirectional process in metaphor, and the fact that if there is a change in the order of the input spaces would alter the integration network cannot be overlooked. This bidirectional process will be tackled below.

2.8.3. Reverse Transfer

As already pointed out, there is a lack of research and theorisation regarding the issue of directionality in metaphors. However, there is a significant attempt to tackle asymmetry and reversibility that was stated previously that belongs to Barnden et al (2002), a group of cognitive scientists that highlighted the gap that exists in relation to inverse transfer, i.e. the target's role in the construction. These authors recognise that the source domains can be used to generate hypotheses about target domains, or to highlight certain aspects of the target domains. Thus, they reassert the traditional mapping of elements of the source domain onto the target domain. They notice, however, that "transfer in the reverse direction is rarely discussed in any detail, and then only for limited purposes" (p. 1).

They argue that the metaphorical utterance is based on an intuitive direction from source to target, the source being the entity that predominantly illuminates the target, and that it is not the other way around, according to the current pieces of research on metaphor (2002). They argue, however, that "the direction of the metaphor does not completely determine the direction of individual transfers or even the intuitive direction of mapping links. Thus, the difference between 'A as B' and 'B as A' is not a simple matter of what direction the links or transfers go in" (2002; p. 34). These claims are correlated to what they subsequently propose, and this is that there are indeed reverse transfers in the process of construction. This means that target concepts have an active role that complements the role of the sources, generating an interplay between sources and targets in the process of construal, even when there is a specific relation of the A-is-B type.

According to these authors, the target would look into the source's repertoire, or domain matrix, and select an element that will ultimately enable the metaphoric construction. Thus, there is a process of mutual selection that can be interpreted as a bidirectional interplay. Therefore, the proposed schematising potential of the target over the domain matrix complements a source's width of scope, which means that the source has a wide range of possibilities to select from the target.

However, it must be pointed out the fact that the examples provided by Barnden et al. are rather confusing and applied to an Artificial Intelligence program for metaphorical reasoning

called ATT-Meta (2002), and though they argue that it concerns all disciplines dealing with metaphor, it is still very much specific to AI science. Thus, an example provided by this study to elucidate is *This movie is a joke.* The concept 'joke' serves as a source and 'movie' as a target. The emergent structure of this metaphor is BAD QUALITY, because the source highlights an aspect of the movie which its poor quality on the making or production, for example. However, the target 'movie' looks into the spectrum of BAD QUALITY, and highlights aspects such as length, acting, production, entertainment, etc. Then, what is the difference between what is sanctioned by the source and by the target? The target's role adds specificity to what is sanctioned by the source, and it enriches the mapping as at the same time it selects one of the many aspects present in the matrix. Thus, if 'joke' is the source for several targets, it will, in most cases, highlight the bad quality, but the target will add specificity as it looks into the domain matrix of BAD QUALITY. Thus, the emergent structure of BAD QUALITY in *This movie is a joke* is different from *This viper is a joke*, as in that case it highlights the fact that the viper e.g. fails to hurt, scare or to poison a victim.

2.8.4. Questions about directionality

Many are the question that arise from current theories. In relation to cross-domain mappings and inferences, for example, is it enough just to invert the source-target relation of the concepts in order to obtain a new metaphorical construction? To what extent is inference essential to the understanding of metaphor? Does the inversion of the source-target relation affect the directionality of the metaphor? What is the relation between the entrenchment of an embodied metaphor with an inference that may arise online? In this study, entrenchment is thought to assume an important role in the construction and interpretation of a metaphor.Thus, is entrenchment of metaphors affected by an inversion of the directionality of cross-domain mappings? How can inversion be traced in a conceptual integration network?

The alleged unidirectionality of metaphors has been widely shared by many cognitive semanticists. However, as Kövecses (2010) points out, there still are cases in which an inversion allows metaphorical interpretations, especially when they are of the A is B type. What are the conditions that a metaphor needs to fulfil in order to function in two different directions? Is it a

matter of the concepts that participate in the metaphor, or is the metaphorical relation in itself? What makes an inversion be metaphorical or non-metaphorical? Is there something in the nature of the concepts that allows them to work better as a source or as a target?

Taking in consideration Kövecses´ (2010) account that "in the same way as the source domain applies to several targets, the targets also have several sources" (p. 23), is directionality constrained to a concept that can function as source? Is the relation between concreteness and abstractness an underlying factor in the feasibility of generating acceptable metaphorical constructions? In his taxonomy of common sources and targets (2010), Kövecses proposes that as "target domains are diffuse, and lack clear delineation; as a result, they 'cry out' for metaphorical conceptualisation" (p. 23). For example, the abstract notion of 'desire' is in need of concrete notions in order to be understood such as 'heat' in *He's* ***burning*** *to go*, or 'physical forces' or 'physiological forces' such as 'motion' and 'hunger' as in *The jacket I saw in the shopwindow* ***pulled*** *me into the store*, and *She is hungry for knowledge* (Kövecses, 2010). It is, in this sense, that Kövecses argues that there are different sources for a specific target.

Much has been said about the fact that whenever there is inversion, the resulting metaphors seem odd and that they do not function as their original entrenched versions. However, little has been said about what kinds of interpretations can be really obtained from these inversions. Is it enough to say that they present uncommon elaborations? Is it enough to say that some inversions function partially as a metaphor? Is it enough to say that some of them do function as proper metaphors? These questions need to be addressed in the light of experimental approaches to see what happens when the concepts of the metaphor are inverted in relation to the source-target relation. This study suggests that a more thorough study of inversion in metaphors, and the role of source-target concepts is needed in order to completely and successfully approach the issue of directionality in metaphors, together with the requirements some concepts need to fulfil in order to be considered source or target, and to test their ability to play both roles. Furthermore, as will be seen the upcoming sections, directionality is not the only way in which the role of sources and targets can be tested and thoroughly analysed. This study proposes that there is an inherent nature in concepts that enable them to be successful sources or targets. Thus, questions in

relation to the nature of concepts and the requirements they need to fulfil in order to create a metaphorical construction can be found in the section of Theoretical Framework below.

Chapter 3
Theoretical Framework

3.1. Towards a consensus view

Within the study of metaphors, this research will concentrate on the processes underlying meaning construction of novel metaphors. In order to achieve the latter, two main theories are deemed more particularly to be relevant for the study, namely Lakoff's Conceptual Metaphors' theory and Fauconnier´s Blending theory.

There is a tendency to believe that both theories are mutually exclusive. However, the latter does not hold true as they both give an account on different cognitive phenomena regarding the construction of meaning. On the one hand, Lakoff's approach to metaphor deals with the notion of conventional conceptual networks licensing the emergence of novel metaphors, such networks being relations between abstract and more concrete domains (Lakoff, 1979). On the other hand, Fauconnier´s Blending focuses on integration of elements pertaining to different input spaces, from which meaning construction emerges (Fauconnier, 2003).

Following the stated above, it seems pertinent to consider both theories as complementary due to the fact that an approach based solely on one of the theories will not account for the issue entirely.

As this study consists in the analysis of interpretation of different concepts that stand at a metaphorical relation, Lakoff's theory is quite relevant. Within Lakoff's theory, it is pertinent to refer to the "invariance principle" in which metaphors only maps units of meaning from the source domain that remain consistent in the target domain, those units of meaning preserve their image-schema structure. By carrying out a study based solely on his approach, the interpretation of metaphors are expected to be driven by preexisting conceptual mappings, namely primary and entrenched metaphors. This would imply that within the interpretation of novel metaphors, due to the invariance principle, elements form the pre existing mapping (i.e. image schema, correspondences) would be preserved. However, some metaphors do not actually present any traces of being based on a primary one, and are rather original constructions that Lakoff's theory does not account for.

Another issue tackled by Lakoff is the nature of such a metaphorical relation, which consists of an abstract domain being understood in terms of a concrete domain. It must follow then that, whenever there is a relation violating such a principle, metaphorical interpretations would not occur. Notwithstanding, there are cases in which metaphorical relations between domains that hold the same levels of abstraction are established as in the case of *This surgeon is a butcher*. The latter seems to be pointing towards the possibility that Lakoff's view offers only a partial account of the phenomena being addressed.

Regarding Fauconnier on the other hand, Blending theory gives an account for the cases in which Lakoff's view is unable to explore. In such cases the interpretation of metaphors would be reached through the integration of the elements pertaining to two different mental spaces. Such view, would imply that the interpretation of a two-concept relation is reached by means of a construal process that occurs online. Moreover, this seems to suggest that any source-target relation may present a metaphorical relation. However, the fact that there are many pairs of concepts in which the interpretations do not give an account of a metaphorical relation may reveal that the possible relations between two different concepts are restricted by some other factor.

There is a need of integration between both theories into the present study as they, in conjunction, can integrate two views that may be equally relevant to the interpretation of metaphor. However, the fact that the source-target relation may present or not a metaphorical interpretation indicates that the meaning construction of a metaphor has a dynamic nature which cannot be accounted by each theory alone. Furthermore, there is evidence that suggests that this dynamicity seems to be quite dependent on the interplay between target and source.

On the one hand, Kövecses' account (2014) on the organisation of the conceptual system suggests that in metaphors and metonymies source concepts are not limited to any particular target concept, but they rather present a wide scope. It follows then, that the wideness of the scope of the source would schematise the target concept. The latter implies that within the conceptual system there would be some source concepts that present a wider scope than others, and as a consequence, the number of targets that can be schematised by a source concept would depend on how much they may be encompassed by the source's scope.

On the other hand, the study on asymmetry and reverse transfer in metaphors carried out by Barnden et. al. (2002) offers the idea that, even though metaphors are said to have a specific direction, A to B, there are cases in which a reverse transfer may occur, this is, target concepts may have an active role in the construal of the source concept, as already explained in the Literature Review section. In metaphors, target concepts look into the source concept and select the elements that are shared by both domains.

Both studies evidence the possibility that the dynamic nature of the interpretation of novel metaphors depends on a bidirectional interaction between the target and the source; the source schematising the target, and the latter selecting elements from the source. The reason for taking this interaction as bidirectional is due to the fact that the metaphorical mapping does not occur solely as a consequence of the wide scope of the source but can only be possible if the schematised target aligns with the source based on characteristics shared by both domains.

The possibility of a bidirectional interaction would indicate the array of source-target combinations that can be established as metaphoric. Moreover, it would indicate which combinations are more likely to present a fixed interpretation, which ones will have divergent interpretations and which ones will not present a metaphorical interpretation at all. This ultimately leads to a re-consideration of the notion of entrenchment, in the sense that this notion is not a matter of conventional relations, but a matter of how convergent/non convergent interpretations may give an account on different levels of entrenchment. Under this reconsideration, on the one hand, convergent interpretations may indicate the combination of two given concepts points towards the metaphorical relation being conceptual. On the other hand, divergent interpretations indicate that meaning construction is reached through a process of construal.

The new notion of entrenchment stated above may allow the consideration of Fauconnier Blending theory and Lakoff's Conceptual metaphor theory not as two exclusive mechanisms but as complementary, in the sense that meaning construction of all combinations may be placed within a continuum that ranges from conceptual to construal. The latter is evidenced in the following section as it is an attempt to create an inclusive ground for the theories previously presented.

3.2. Conceptual content of domains

When approaching the speakers' conceptualisations of sources and targets, it is necessary to consider several definitions and classifications related to the semantic content of the domains. To begin with, it is important to establish the difference between the several aspects of the conceptual content of domains functioning as either source or target domains. Langacker (2008) offers two very revealing definitions of these contents.

At the most basic level, it is understood that the domain matrix is composed of 'Basic Schemas', which are those pre-conceptual structures which cannot be derived from more basic structures, nor can they be analysable into other notions.

At a more structured level, basic schemas can be abstracted into 'Image-Schemas', notions of more complexity related to spatial, visual, and kinetic experiences. However, these structures still remain as pre-conceptual, although they provide the blueprints for the elaboration of conceptual constructions.

Lakoff (1987) additionally considers concepts to exist in macro-structural models that include related information, called 'Idealised Cognitive Models', or ICMs. According to his view, ICMs exhibit the phenomenon of typicality when concepts are understood against them. In those instances, some concepts match up more than others with the cognitive model, and this, in turn, is what gives rise to the typicality effects

The next and most complex level of structuration for concepts is the 'Cluster Model', which consists of a group of converging ICMs which gives rise to a psychologically more complex model than the individual cognitive ones. Large conceptual categories are thus formed, consisting of several ICMs which stand as sub-categories of the larger clusters . When a subcategory of the cluster is viewed as the primary ICM, the effect of 'prototypicality' arises, ranking the other ICMs as less important.

A relevant distinction is made by Górska (2000), on the elaboration made by Kövecses and Radden (1998). She establishes the difference between categorisation, as displayed by cluster models and their sub-categories, and part-whole relations. Under this perspective, both of

them are understood as a hierarchical organisation of the conceptual structure. However, the categorisation of sub-categories, which can also be called taxonomy, is based on discrete sets. The part-whole relations, referred to as 'partonomy', base their categorisation on the classification of the components of a whole.

For the purposes of this study, the previous structures are considered to be in a particular order of schematicity, which ranges from the most basic pre-conceptual schemas, to the most complex, 'supra-conceptual' models of semantic representation which determine the centrality of certain ICMs within clusters. These highly schematic models correspond to culturally defined structures, referred to in this study as 'cultural models'. The present study devised this theoretical continuum in order to range the conceptual content of source and target domains.

A scale is thus proposed, to be called 'level of schematicity', along which all concepts can be ranked according to the schematic makeup of its semantic content, from the most essential Basic Schemas, which are notions of embodied experience; through Image-Schemas, which can be composed of a single schematic domain or a simple image-schema; and the 'supra-conceptual' structures, Partonomies which exhibit prototypicality; and finally the most schematic Cultural Domains. The purpose of this scale is to account more easily for the ways in which speakers face new metaphors, conceptualise each of the domains involved, and finally attempt to match their conceptual makeup.

3.3. Preliminary Evidence

Regarding the two main theories of the study of metaphor, i.e, Lakoff's Conceptual Metaphor Theory and Fauconnier's Conceptual Blending Theory, some similarities and differences could be observed. The differences among these models are considered as a gap that, analysed in detail, can give hints about the mechanisms underlying metaphoric integration. The main difference between these proposals has to do with the nature of the domains that constitute the basis of the metaphor. On the one hand, Lakoff considers the domains involved in metaphor to be systematically and conceptually related in such a tight correspondence that is stored, presumably, in the long-term memory. On the other hand, Fauconnier does not propose such a

stable link between concepts, but a relational activity constructed on-line, supported by domains, known as mental spaces. These spaces give rise to new ones, which are construed online.

In order to approach the scope of the two models of metaphor, a short sample of metaphors considered as conceptual was analysed in a pilot study. First, a domain source A is understood in terms of a target domain B, and then the metaphor is then inverted. i.e, the original target domain B as a source, understood in terms of A, which takes the role of the target. Also, the answers given were marked in a scale from one to five, indicating the easiness or difficulty of interpretation according the subjects' judgement.

It was expected that the metaphorical relation would remain, as the concepts involved were the same and the interpretation was considered easy by the subjects, while the novel metaphors should be more difficult in the interpretation. However, the partial results showed something different: most of the original metaphors were re-interpreted when inverted by means of the linking between the same original domains, however the link between these domains was not always metaphorical but metonymic, and the index of difficulty did not show any substantial pattern in terms of which domains were involved. In the case of the reversed metaphors, they presented divergent answers supported by different mechanisms of interpretation, the most important being the re-inversion of the source and target to the original form for its interpretation, metonymic association, literal decodification and collapse of the interpretation and again, the coefficient of difficulty did not showed any consistent pattern.

From this exercise, it was observed that the different interpretations displayed a continuum along which any answer could be placed. This continuum comprehends the metaphorical interpretations that remained metaphorical and converged in the majority of the answers as if they were entrenched in people's minds. Another type of interpretation is that of metonymic links where the interpretations were not fixed but displayed characteristics of construal. Finally, there are also those interpretations where no link was created or the interpretation was literal, as well as those whose meaning is unintelligible.

The results previously mentioned suggest the presence of an even more intricate interplay among many of the factors and elements associated to the metaphors. While the interpretations of most of the entrenched metaphors followed somewhat predictable patterns, the

interpretations of inverted metaphors cannot be accounted for by the straightforward explanation that the source and target domains were inverted, and thus the abstract/concrete relation was inverted as well.

While some of the inverted metaphors do follow the abstract/concrete order, of course, many of them presented a situation of relative equivalence in concreteness between the two involved domains. In other cases, the level of entrenchment of the original metaphor was such that even the inverted metaphor was interpreted as the un-inverted one, in absolute disregard of the fact that the domains had been syntactically switched. Furthermore, the level of difficulty reported for interpreting inverted metaphors is not constant, and varies greatly for each case.

This leads to the question of how and why exactly some novel metaphors appear as easier to interpret than others. The factors which may be involved are the entrenchment of the metaphor (here, understood as the frequency with which this construction appears in the use of the language), whether the metaphors prompt for specific embodied bases for achieving understanding, or if the blending process is somehow mediated by cultural aspects.

In cases where the target and source domains are interpreted in terms of each other even in inverted metaphors, it is still necessary to account for the fact that not all interpretations follow the same "strategy" in order to arrive at a coherent version, and the emergence of metaphoricity in these answers varies greatly, showing no evident pattern. Some metaphors retain their metaphoric quality as conceptual integrations after the inversion, even if the order of the domains is taken into account or not. For other cases, however, the interpretations take the relation between domains to be of a metonymic nature, and the interpretation consists of a conceptual leap between frames, which serves to link both domains. There are even cases where the interpretation is as literal as possible, regarding the relation between both domains to be that of mere identity, as suggested by copular link "to be". Even cases where no answer at all is given must somehow be explained, considering that in most of these cases the reported difficulty of the exercise was great.

One particular case was that of the inverted metaphor being eventually interpreted as the original one, since, apparently the novel integration suggested by the inversion was deemed impossible. This calls the attention towards what aspects of the inverted metaphor make it

impossible to interpret independently, and the possible factors could be found in the characteristics of the source and target domains, or in their relation, or in cultural and even pragmatic implications of attempting to carry out the suggested blending.

Thus, it becomes necessary to explore possible patterns of correlation among the mentioned factors and elements which may explain these diverging interpretations. The interactions might not be simply direct functions of the variables presented as degrees of a scale, but the network of co-dependencies might give interesting insights into the way the process is carried out.

As for now, the notions of construal and conceptualisation have proven to be understood as two working and complementary positions towards the interpretation of the notion of entrenchment, as explained in section 1.C. The notions of construal and conceptualisation, in other words, have proven to be two complementary mechanisms.

The primary theorised interaction of target and source domains, however, can be traced back to the notion of 'directionality'. "Directionality' is understood to determine the metaphor under the form of a mapping between the source and the target domains.

Metaphor, in this sense, can also be seen as an entrenched two-pole synthesis from X to Y. As it has been posited before, the relation between the two concepts could follow patterns of mapping strictly from the concrete concept to the abstract one, and the "objective to subjective" principle that assumes a transfer of characteristics of one of the domains to the other.

So far, metaphoric phenomena are envisaged as an online networking motivated by a common generic space and its domain structure. There must be found a new theoretical balance between conceptual metaphor and online networking that comes to define, re-define some characteristics of metaphor with seemingly contrary characteristics.

It is understood that counter characteristics of metaphor point towards some *scaling effect,* to be detected. This is understood as a ranking of features that run parallel to the continuum that goes from conceptual motivation to construal. This continuum is envisaged as the main theoretical tension for a metaphor. It is seen as a dynamic interaction of two poles. The construction of a metaphor is a bipolar construction.

What was envisaged as a dynamic bi-directional interaction between two domains, i.e. target and source, now is envisaged to have the organisation of a scale that features certain values for each setting:

a. Use of integration techniques, i.e., Metaphor vs. Metonymy.
b. Scale of difficulty in interpretation, i.e., ease of integration vs. difficulty

The ability to integrate would thus be reflected on a continuum that goes from metaphor to inability to integrate (resulting in no answer). This final possibility of integration results in four different types of interpretation: Metaphor - Metonymy - Literal - No Answer

Along this scale, other features may be running in parallel, like a) the inclusiveness of domains that are brought together with a motivation that is culturally defined and b) the entrenched character of a metaphor.

In a more detailed fashion, a qualitative analysis of the factors will be accounted for, as follows:

a. Convergence of Domains
b. Convergence of Interpretations
c. Convergence of Difficulty

Parallel to the scale, the factors that also will be taken into analysis will be the participation of both target and source domains, interpretations and difficulty. Furthermore, all of the factors will be understood strictly as part of the conformation of a metaphor, not as a part of a culturally defined characteristic of a metaphor.

3.4. Hypothesis

As it has already been explained heretofore, at first sight a metaphorical process seems to be the result of a unidirectional mapping between two domains in where a target concept is

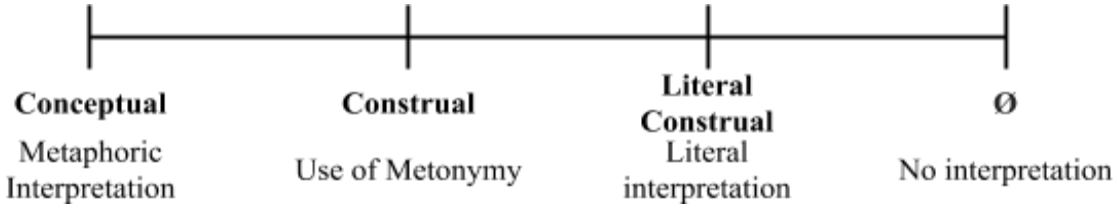
understood in terms of a source concept. Thus, according to what is meant to be said figuratively specific features of the target are sanctioned by the schematicity and the scope that characterises the source. Even though a metaphorical expression reflects the source-target relation syntactically, this order does not necessarily represent the bidirectional interplay that takes place between the two domains existent in the mapping. A concept in order to appropriately work as a source must have a wide scope, that is to say, has to be more schematic and conceptually more likely to be transferrable to distinct domains. In that sense, a source concept will select a target according to the schematic projections that are transferrable and also in respect to the specific features of the target concept that can possible be sanctioned through that relation. However, a target also needs to select aspects of the source in order to be anchored to the matrix domain of it. That being so, both source and target concepts work as complementary poles that attract each other, leading to metaphorical constructions.

This bidirectional process of mutual selection is what allows for the construction of metaphors with a high degree of metaphoricity. It might be the case that some concepts are easily recognised as sources, and which are somehow entrenched in the human mind as working domains that can be easily mapped onto others, and easily understood. This would be the case of the source concept *par excellence* JOKE. When this concept is encountered in a metaphor, there is tendency to recognise it as a concept that fully works as source and can be easily mapped onto any other concept in position of the target. That is why expressions like *This coffee is a joke, This wedding is a joke* and *This movie is a joke* present a large convergence of metaphoric interpretations, and also of the specific aspect of the domain matrix of JOKE, this being bad quality. On the contrary, if there are concepts that do not successfully function as a source, or concepts that cannot be put in the target position, a wider set of possible interpretations can be found. These wide range of interpretations ranges from the maintenance of metaphoric elaboration/interpretation to inability of metaphoric construal. These types of interpretation can be arranged along a metaphoricity scale. This being said, then it is possible to translate our previous theorisation in the following specific hypothesis:

The interpretation of metaphors is constrained by a bidirectional process that takes place between target and source and comprises the following components: i) Schematising potential of the source over the target and ii) the selection of elements present in the source's domain matrix by the target. It follows that:

a. The emergence of metaphoricity ranges over a scale that observes the distribution of features involved in this bidirectional interaction.
b. Re-interpreting entrenchment as convergence of identical metaphoric responses, this scale extends from convergent metaphoric interpretations to inability of metaphoric construal.
c. Making use of the conceptual scale ranging between conceptual similarity/dissimilarity, metonymic use of concepts is expected to populate areas midscale, lying between metaphoric and literal/non-convergent interpretation.

Therefore, the hypothesis accounts for a scaling effect over a continuum that evidences the different types of interpretations that can be obtained from different constructions. The elements of the metaphoricity scale range from conceptual/construal to instances where there is no possibility of construal. In this sense, the metaphoricity scale continuum presents four possible interpretations:



The conceptual/metaphorical end of the scale accounts for the degree of metaphoricity encountered in the types of interpretations of a given construction, i.e. that people can construe meaning metaphorically with the resources found in the source and target domains. For example, in *This movie is a joke*, the fact that the interpretation highlights "bad quality", even though it is not necessarily a feature of either joke or movie, evidences the metaphoric outcome of the

blending. Close but in a different position in the scale the construal level is found, which evidences the use of metonymy for elaborating meaning. The use of the metonymic resource is due to the fact that the relation between source and target does not motivate a metaphoric interpretation, and it involves an extra effort for the mapping. Hence, a metonymic leap enables the construction of a script where something within one domain is sanctioned and stands for the whole relation. For example, in the inverted version of the metaphor *This affection is a coat*, presented as *This coat is affection*, there is, usually, a metonymic leap that explains why affection can be a coat, as it can be a gift—as gifts are culturally understood as a display of affection, and it stands metonymically for the whole domain. This means, there is a selection between one domain, and the outcome of that selection stands in the interpretation.

Further on the continuum the literal construal is encountered, which is characterised by the lack of both metaphoric interpretation and metonymic resources in the blending. There would not be a mapping and blending process proper, as holds of the two previous levels of the continuum. For instance, in the metaphor *This student is a star*, to depict a star-shaped student would be a literal construal. Finally, the other end of the continuum accounts for the nonexistence of interpretation. This occurs when no type of construal is accessible to the listener/reader. This can be associated with the difficulty of merging two concepts that perhaps cannot construe each other, and at the same time, this would have to do with the nature of the concepts and what the requirements are in order to function as either source or target.

3.5. Research Questions

This study will, therefore, pursue to solve six specific questions which deal with essential aspects and factors regarding our inquiry. The issues that will be developed by answering these questions are mainly related to the bidirectional construal relation between source and target, the featural aspects that populate the interaction of them, the conceptual makeup of mental spaces and finally, the role that entrenchment, directionality and metonymic connections play in the emergence of metaphorical meaning. Thus, these matters can be broken down into the following questions:

1. What characterises the width of scope and the schematising potential of a source over distinct target concepts? What are the factors that enable a target concept to construe the source's domain matrix and to encompass the elements present in it ?
2. What are the elements that hinder the emergence of figurative interpretations of novel metaphorical constructions?
3. What are the characteristics of the concepts that constrain the feasibility of elaboration and the possible interpretations? Are concreteness, abstractness, culture and embodiment influential on the processes of metaphorical elaboration?
4. Does entrenchment define the role of a concept (source or target role) in the elaboration of a metaphor? Can entrenchment or the lack of it be translated into convergence or divergence of interpretations respectively? Does it reflect on the degree of difficulty for elaboration?
5. Considering that a change of the source-target relation is deliberately contrived, how does this change affect the interpretation of metaphors? What types of interpretation arise from this inversion?
6. What is the role of the use of metonymy in the construction of meaning? When does it come to play and why? Can the use of metonymy be associated with indicators such as difficulty of elaboration and larger conceptual distance among the domains sanctioned?

3.6. Objectives

Furthermore, by answering the previous questions, it is expected to attain in the process the following main objectives:

1. To establish a scaling distribution of some indicators related to the emergence of metaphoricity and their interplay. These indicators are:

    a. Different types of interpretation (metaphoricity scale)
    b. Degree of difficulty of elaboration

2. In relation to the previous, to identify, among the interpretations, a possible convergence of the following elements:

    a. Figurative or literal understanding of particular expressions.
    b. Metonymic leaps and connections.
    c. Instances of impossibility for construal
    d. Sanctioned domains in specific conceptual relations.

3. To test the feasibility of establishing relations between different indicators regarding the emergence of metaphoricity, of the following type:

    a. Degree of easiness/difficulty of interpretation and convergence of types of interpretations, which are translated in the relationship between entrenchment and difficulty
    b. Degree of easiness/difficulty of interpretation and the convergence of sanctioned domains, for which convergence will have a value associated to express higher or lower concentration.

4. To define the features that make a particular concept more willing to be used as a source or as a target in a metaphorical construction:
    a. What the construal potential of the source is
    b. What the sanctioning potential of the target is

Lastly, with the aim of giving a response to the posed questions and, at the same time of achieving our goals, a test will be carried out on subjects that will require the interpretation of entrenched and novel metaphors of distinct types in terms of schematicity. This test is the result of a previous simulated test referred to in the last section allowed us to come up with the different types of interpretation that can, allegedly, be found. Thus, in order to have a wide range

of types of metaphors, it will consider Basic Schemas, Image-Schematic, Complex Unified Schemas, Complex Partonomy, and Cultural metaphors. Then, with the purpose of creating novel metaphors and also of testing the nature of the concepts used as sources and targets, the role that each concept plays will be shifted, that is to say, a conventionalised source concept will be used as a target, and vice versa. The interpretations provided by the subjects will be the mean that will enable us to either corroborate or refute our assumptions regarding source and target concepts nature that constitutes our hypothesis. Thus, it will allow us to see whether the schematising and sanctioning potential of both sources and targets has something to do with the different types of interpretations of metaphor provisionally positioned along the metaphoricity scale, arguing that if there is a successful interplay between the source's scope and the target's sanctioning ability, a more metaphoric-oriented interpretation will be obtained.

An actual scale of difficulty will be presented in the test, together with the chosen data to be interpreted; this will measure the degree of difficulty or easiness of interpretation perceived by the participants. Understanding that these two aspects, difficulty and easiness of interpretation, are in a continuum as well, they will be presented numerically, and the subjects will need to mark their perception on how difficult it was to come up with an interpretation (1 representing absolute easiness, and 5 representing the most difficult). Such a scale will allow for a correlation between the degree of difficulty and the convergence of types interpretations. This point is to be made clear after the responses are thoroughly analysed, due to the fact that there might not be any correlation at all.

Finally, it is predicted that this study will reveal illuminating facts that either resolve or not our concerns, they would be equally interesting and relevant to the field. Besides, as theses assumptions account for issues that have not been explored in depth, it will prompt for further studies in the matter.

Chapter 4

Methodology

4.1. Preparation and Material

4.1.1. Metaphors

Having acknowledged the need to determine the type of influence of specific source and target domains, and their specific features in the interpretation of metaphors, it was decided to formulate an experiment in which participants would be asked to provide intuitive interpretations for several different types of metaphors. In order to generate a representative pool of metaphors, the following steps were taken.

A list of domains was created by selecting from Kövecses' common source and target domains list, from "Metaphor - A practical Introduction" (2010), already referred to in the Literature Review section of the present study. Based on the previously postulated scale of schematicity, one source domain was chosen from each of the levels of schematicity whose behaviour is relevant for this study. This was done in order to ensure that the nature of all the levels is accounted for in the analysis.

Five common sources and five common targets were chosen and arranged in order to produce five novel metaphors, each representing a different type of metaphor, as follows:

Table 4.1.1

Selected Source and Target concepts

Level of Schematicity	Metaphor	Type of source	Type of target
Basic Schema	This memory is a thorn	Plants	Thought
Image-schematic	This dinner is a trap	Machines and tools	Events and actions
Complex (unified schema)	This symphony is a joke	Communication	Events and actions
Complex (Partonomy)	This movie is a wedding	Events and actions	Events and actions
Cultural	This wife is a viper	Animals	Human relationships

Once the list was formulated, the ten concepts that further on will be treated either as a source or target domains were recombined, resulting in a list of 90 total sentences to be shown to participants, with each concept functioning as both source and target in different combinations.

Except for metaphors with the same concept acting as source and target, all other combinations were considered (e.g.: *This movie is a wedding*, *This joke is a wife*).

4.1.2. Slideshows

The totality of 90 metaphors were arranged in slideshows in order for the participants to be able to read them individually. The sentences were ordered so to avoid the repetition of concepts in continuous slideshows (e.g.: *This movie is a wedding*, *This wedding is a wife*) in order for the participants not to be distracted from the apparition of the same concept in adjacent slides. Additionally, each slide was programmed to be displayed for 1.30 minutes until the next metaphor was shown. The remaining time was displayed on every slide in order to warn participants of the moment that the slide would eventually change into the next one. Finally, all metaphors were presented in English so to avoid that participant's local culture would affect the way concepts were conceived., and as metaphors were mainly presented to non-native speakers of English, some slides contained Spanish translations in small print, as a way to clarify any confusions participants may have had in the understanding of some word's meaning.

4.1.3. Answer sheets

Answer sheets were designed according to the order in which the slides were projected. This meant that participants had to answer to each slide in the right answer sheet. For this purpose, both slides and answer sheets were numbered so that the participants could answer in an orderly way. Also, each answer sheet contained a blank space in which participants were assigned to write intuitive interpretations on each metaphor that was projected. Answer sheets also presented five checkboxes that indicated the level of difficulty reported for the interpretation of each metaphor. The level of difficulty ranged from '1' to '5', '1' being the easiest and '5' the most difficult, an important index whereby we would measure the participants' own perceived cognitive effort when carrying out different forms of conceptual elaborations. This scale would be used in order to establish some relations between the difficulty of interpretation, the schematic

nature of the concepts used in each metaphor, and the mechanisms behind the interpretation reached for each participant.

4.2. Participants

4.2.1. Number

Taking into account the drawbacks following participation rates lower than originally expected, the number of participants was calculated according to the following variables: First, the sample was said to be numerically significant in order to achieve quantitative reliability. For this reason, the data was decided to be obtained from a sample of more than 100 participants. Second, for the sake of qualitative credibility, the 90 metaphors had to be reasonably distributed among all the participants. This means that, on the one hand, for the participants, too many metaphors would have exhausted their attention span and, as a consequence, answer's quality would have decreased as slides were changing. On the other hand, as for the analysis, high number of metaphors would have been difficult to be analysed. Third, the amount of metaphors every subject had to face was a variable that conditioned how long the test was going to last. This is because, 90 metaphors to answer in a single session would have resulted in a time consuming experiment as for the participants and as for the preparation itself. Thus, the experiment required more than one session. This meant that the 90 metaphors had to be divided and distributed into different groups, each of them having assigned a small portion of the 90 metaphors. Bearing all these variables in mind, the final number of participants was decided to be 150. They were divided in 6 groups of 25 and for each groups 15 metaphors were assigned.

4.2.2. Profile

Concerning the participants' profile, every person seemed a good candidate for the designed test, since conceptualising is a universal cognitive ability present in all neurotypical human beings. Nevertheless, more formally, participants were expected to have already finished their secondary education. Most of the people who participated were university students as they all met the formal requirements and, for practical reasons, they were easier to contact. However,

for the application of the test, basic requirements were demanded, such as reading comprehension, writing ability and basic knowledge of English.

4.3. Research design

4.3.1. Experimental procedure

Once the participants were gathered in the same room and given their answers sheets, they were instructed to perform the following steps: (1) To carefully read the metaphors projected, (2) To provide an intuitive written response once the metaphors were presented. The idea was for participants not to provide too lengthy or irrelevant answers. (3) Once participants were ready, they were asked to leave the room. (4) Answers sheets, thus, were collected by two members of the research group. (5) Finally, when all the experimental data was finished to be compiled, every single answer began a raw transcription process. Once transcription was completed, (6) both a qualitative and a complimentary quantitative analysis of the data began to be performed.

4.3.2. Correlational analysis

The quantitative design of the research would eventually lead to a cross-factor statistical analysis of the data in order to determine the several ways in which variables such as type of integration, level of difficulty, etc. had an impact on the interpretation of metaphoric constructions. In order to achieve this, the responses given by participants were arranged first in groups of answer sheets, and later on registered as digital data in order to make calculations on. The statistical analyses performed are detailed in the following section.

4.4. Calculations and statistical analyses

4.4.1. Calculation of average difficulty by source, target and type of integration

The first main indicator for every answer provided by the participants is that of the reported level of difficulty. By simply drawing an average of how difficult metaphors were to interpret for each combination with the same source, a ranking of source concepts was created. In other words, this would be a preliminary overview of which sources were more or less difficult to interpret.

Additionally, the same calculation was performed for all metaphors, this time grouped according to their target domain. For each of the ten concepts working as targets, the difficulty was averaged and a new ranking was created.

Finally, the difficulty of each source-target combination could also be taken as a factor pertaining to the type of answer given by the participants. Thus, the average difficulty was also calculated for each type of answer (Metaphoric, Metonymic, Literal or No Answer), in order to open the possibility of accounting for any type of variation in terms of integration related to the difficulty.

Once all the difficulty means are contrasted, a final analysis would draw attention to particular sources, targets, metaphors and types of integration which were markedly more or less easily interpreted.

4.4.2. Quantification of domains sanctioned for each metaphor

Another simple number that would throw light onto the effects to be observed was a simple quantification of all the domains that were sanctioned in each metaphoric construction by all the participants who worked with them. This discreet figure would already be significant in terms of the possibilities of interpretation arising from a particular source, a specific target, or a unique combination of the two. However, this number is not entirely revealing by itself, since it also needs to be correlated to other indicators, such as the concentration of interpretations and the level of schematicity of their components in order to arrive at a more definite conclusion.

4.4.3. Calculation of average concentration by source, target and type of integration

By far, the most important calculation in the present line of research is the concentration of the sanctioned domains for all the interpretations. The concentration is understood here as an index of how much the sanctioned domains of a metaphoric construction converge towards one or more of them. Alternatively, it can be viewed as the opposite of how much all the elements of the conceptual composition differ from the most common one, or ones.

The formula used to perform this calculation is that of standard deviation. An algebraic expression of this formula is as follows:

$$SD = \sqrt{\frac{\sum (x-\bar{x})^2}{(n-1)}}$$

SD: Standard Deviation

Σ: Sum

x: Specific Value

$\bar{x}$: Average value of metaphor

n: Number of values

A simplified version of this formula applied to one of the source concepts used in our investigation is exemplified here, for illustrative purposes.:

> "For the source concept VIPER, let there be a theoretical total of five different sanctioned domains among the answers provided. These domains are *poison, fangs, length, cold blood, and carnivorous*. Each of these domains was repeated a certain number of times by the participants, as follows:
>
> *Poison:* 20
>
> *Fangs:* 2
>
> *Length:* 1
>
> *Cold blood:* 1

Carnivorous: 1

When the above formula is applied to a distribution of answers like this one, the values represent the following:

$$C = \sqrt{\frac{\sum (x-\bar{x})^2}{(n-1)}}$$

C: Concentration

Σ: Sum

x: Frequency of sanctioned domain for this metaphor

$\bar{x}$: Average frequency of sanctioned domain for this metaphor

n: Number of answers per metaphor (in this case, always 25)

Replacing the values of this metaphor into the formula, the final equation is solved thus:

$$C = \sqrt{\frac{(20-25)^2+(2-25)^2+(1-25)^2+(1-25)^2+(1-25)^2}{(25-1)}} = 8.3$$

Therefore, the final figure for concentration in this particular metaphor would be 8.3."

It is essential to note, then, that the concentration index varies according to the frequency of the sanctioned domains of the metaphor. To illustrate, if in the previous example there had been only two sanctioned domains for VIPER—say, *poison* and *length*—and they had appeared 20 and 2 times respectively, the final concentration would have been 13.4. As can be seen, a higher concentration index means, in conceptual terms, that the distribution of interpretations leans much more towards one domain with a higher number of instances.

However, take the opposite case: if the values had been distributed among the same original five domains in equal instances of 5 each, the resulting index of concentration would result to be zero. This is technically coherent with the meaning of the calculation, since a

qualitative interpretation of this zero being ‘no concentration at all’ effectively means that the interpretations do not show a tendency towards any specific domain more than the others.

Thus, it is to be understood that higher concentration in each metaphor means a mixture of:

- Answers distributed among fewer sanctioned domains
- More answers corresponding to one or a few sanctioned domains

Chapter 5
Quantitative Analysis

In this section, the results obtained from the quantitative analysis of hard data will be summarised according to representativeness, that is to say, only the higher and lower values of each indicator will be presented. Therefore, the most representative averages of concentration and degree of difficulty of both the source and target concepts will be highlighted over the values that seemingly do not present a pattern relevant for the aim of this research. Thus, the numeric values of the higher and the lower cases from both indicators will be associated in order to make positive or negative correlations between them, seeing as well whether a proportional relation is direct or inverse. For instances, the results that in sources like joke and thorn there is direct correlation between level of difficulty and the concentration value.

In the same manner, this part presents how the type of integration of each conceptual relation can be correlated to an overall average difficulty and concentration according to sources. Finally, values will be shown regarding the dispersion of difficulties and concentration indicators, that is to say, how different source concept domains deviate significantly from the averages of the overall source, thus representing numerically how stable or unstable a specific concept is in terms of the interplay between source and target concepts. In other words, this indicator reveals which sources are interpreted similarly in all constructions with the targets (less disperse), and which are interpreted in a significantly different matter in one or two specific constructions (more disperse). This signals those cases in which the source-target interaction is particularly special, either because of semantic, structural, or cultural reasons.

At the end of each subsection, global analyses of the indicators previously mentioned will comprise correlations reduced from the results and brief interpretations of them. The purpose of presenting these inferences is to provide a glimpse of what will come in the following section, which will present the qualitative analysis of the most salient examples and its implications in the process of meaning construction, and in relation to the interplay between sources and targets.

5.1. Difficulty

Difficulty was calculated in relation to three main variables: sources, targets and the type of integration. In order to determine the difficulty for each of these variables, the average difficulty was calculated taking in consideration the difficulty of all the metaphors based on the given sources, targets and the type of integration associated to the metaphors. Thus, it could be seen that there were different difficulty values associated to different sources, targets and types of integration, which implies that there are concepts that are considered more or less difficult than others when serving as sources or targets. The types of integration also present this distinction.

5.1.1. Difficulty by source

Keeping in mind that the difficulty degree ranges from 1 to 5, the concept with the lowest difficulty value was JOKE with an average value of 2.09, followed by THORN with 2.4 and TRAP with 2.37. The concepts with the highest value of difficulty were WIFE with 3.25, WEDDING with 3.6, and DINNER, which presented the highest difficulty with an average value of 3.66.

Table 5.1.1

Average difficulty value by each source concept

Source concept	Average difficulty
Joke	2.09
Thorn	2.40
Trap	2.37
Symphony	2.85
Memory	2.96
Viper	2.99
Movie	3.01
Wife	3.25
Wedding	3.60
Dinner	3.66

5.1.2. Difficulty by target

As for the targets, some concepts presented different average difficulty, for instance, in this case, the lowest difficulty index was for DINNER with a value of 2.37, then followed by MOVIE with a difficulty value of 2.4 and WEDDING with 2.42. Concepts such as THORN, TRAP and VIPER presented the highest difficulty with 3.14 and 3.04, and 2.99, respectively.

Table 5.1.2

Average difficulty value by each target concept

Target concept	Average difficulty
Dinner	2.37
Movie	2.40
Wedding	2.42
Wife	2.45
Memory	2.51
Joke	2.74
Symphony	2.76
Viper	2.99
Trap	3.04
Thorn	3.14

5.1.3. Difficulty by type of integration

The type of integration made in each conceptual relation was correlated to an overall average difficulty among all the sources. Thus, the type of integration that got assigned the lower average difficulty was METAPHOR with a value of 2.77, followed by LITERAL with 2.87, then by METONYMY with 2.9 and finally by NO ANSWER with 4.3.

Table 5.1.3

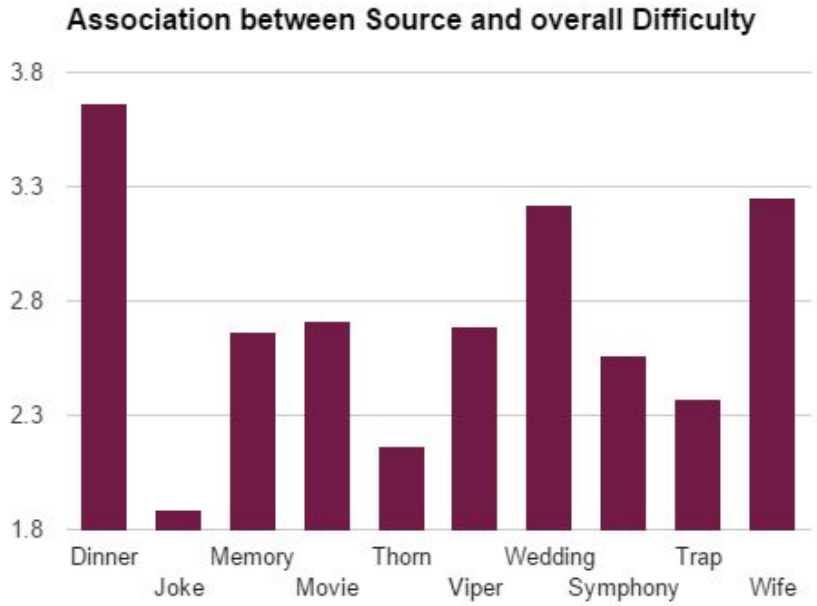
Average difficulty associated with each type of integration

Type of integration	Average difficulty
Metaphor	2.77
Metonymy	2.90
Literal	2.87
No answer	4.30

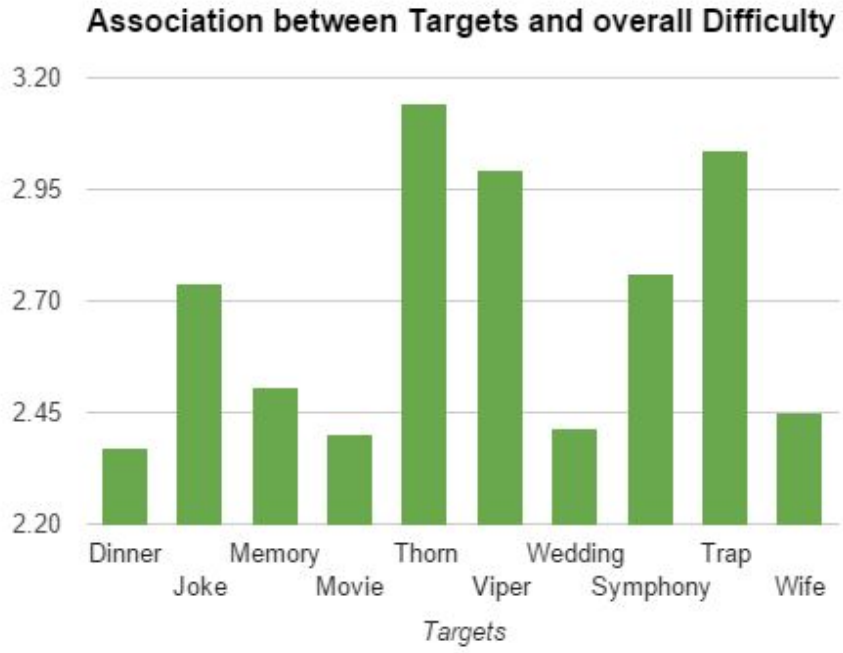
5.1.4. Global analysis of difficulty

First, the global analysis of difficulty comprises the average difficulty of each source and target. By contrasting these average values obtained it is possible to observe the behaviour of all the concept domains serving as sources and targets. Thus, concepts will be contrasted in their role of sources and targets, and also how they work together.

On the one hand, in relation to source concepts, it was already mentioned that there were three concepts which presented the lowest difficulty value; these were: JOKE, THORN and TRAP. On the other hand, serving as targets, DINNER, MOVIE and WEDDING presented the lowest difficulty values.



Graph 5.1.4.1. This bar chart shows the difficulty value associated with each source concept. The concepts JOKE, THORN and TRAP present the lowest difficulty serving as source, whereas WEDDING, WIFE and DINNER present the highest.



Graph 5.1.4.2. This bar chart shows the difficulty value associated with each target concept. The concepts DINNER, MOVIE and WEDDING present the lowest difficulty serving as target, whereas VIPER, TRAP and THORN present the highest.

It is worth noting, however, that two of the easiest source concepts when functioning as targets presented the highest difficulty values; these were THORN and TRAP, which implies that the same concepts have different qualities in different roles. Thus, metaphors with the construction *X is a* THORN and *X is* a TRAP are easier than THORN *is a X* and TRAP *is a X.* It is important to note whether the combination of the easiest sources and targets make the easiest metaphors. On the other hand, the source concepts that presented the highest difficulty value were DINNER, WIFE and WEDDING, even when DINNER and WEDDING were two of the easiest target concepts. Thus, constructions such as WEDDING *is X* and DINNER *is X* are easier than *X is a* WEDDING and *X is a* DINNER.

Now, in relation to the relation between easiest sources and targets, *This wife is a viper* is the metaphor with the lowest difficulty value, even though neither one of those concepts were featured as the easiest. However, this metaphor is followed by what was expected to happen: the following 4 easiest metaphors feature JOKE and thorn as sources, and dinner, movie and wedding as targets, with the presence of memory which was not part of the easiest targets before. Furthermore, there are three instances where some of the easiest sources match with some of the easiest targets, provoking metaphors that are in the group of the 5 easiest out of 90. This is the case of *This dinner is a joke, This movie is a joke,* and *This wedding is a joke*:

Table 5.1.4.1

Average difficulty associated with each metaphor

Metaphor	Average difficulty
This wife is a viper	1.52
This **dinner** is a **joke**	1.60
This memory is a **thorn**	1.74
This **movie** is a **joke**	1.84
This **wedding** is a **joke**	1.84

Note. This table shows the average difficulty associated with each metaphor, featuring the concepts that were considered the easiest as both sources and targets. The concepts in black represent the ones that got the lowest difficulty values as either source or target.

In relation to the metaphor with the highest difficulty value, *This symphony is a wife* presented the highest number, having WIFE as a source, which was one of the most difficult sources. It is followed by *This wife is a wedding, This viper is a dinner, This trap is a dinner,* and *This thorn is a symphony*. Alongside SYMPHONY, DINNER and WEDDING are the sources for 3 other metaphors that were considered to be the most difficult ones. And, in relation to the targets, TRAP and THORN were found as part of the most difficult metaphors. The case of *This trap is a dinner,* features both the one of the most difficult sources and most difficult target:

Table 5.1.4.2

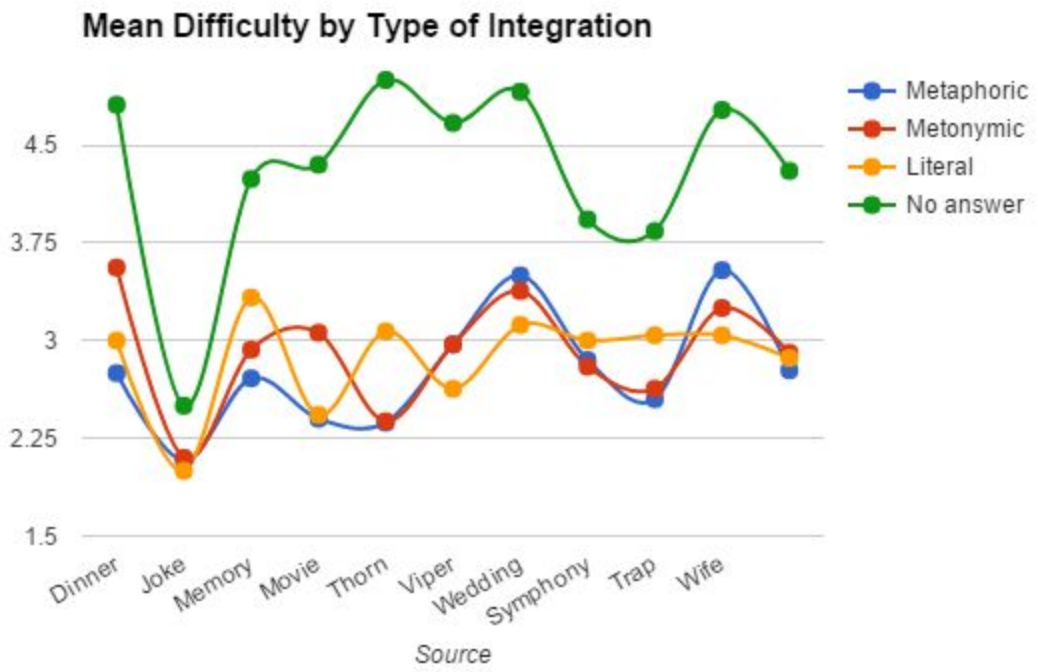
Average difficulty associated with each metaphor

Metaphor	Average difficulty
This symphony is a **wife**	4.28
This wife is a **wedding**	4.20
This viper is a **dinner**	4.2
This trap is a **dinner**	4.20
This **thorn** is a symphony	4.12

Note. This table shows the average difficulty associated with each metaphor, featuring the concepts that were considered the most difficult as both sources and targets. The concepts in black represent the ones that got the highest difficulty values as either source or target.

It can be inferred that certain constructions are easy or difficult to make depending on the role that the concept is taking. This means that one same concept can be both easy or difficult, but it depends if it is the source concept—then it can take many or few concepts as target—, or if it is serving as a target—in which it can be mapped onto a source target rather easily or in a difficult way.

In relation to difficulty regarding types of integration, it is noted that the difference between METAPHOR and METONYMY is slight, which could indicate that it is not clear whether the use of one of these two mechanisms has a relation to an easy or to a difficult relation between concepts. Furthermore, it is added that LITERAL interpretations can be as easy or as difficult as the two previous mechanisms, which suggests that there is no clear evidence to say that one type of integration is easier than others.



Graph 5.1.4.3. This line graph displays the difficulty value associated with each type of integration. The lowest difficulty is similar for METAPHOR, METONYMY and LITERAL interpretations, whereas the NO ANSWERS present the highest difficulty.

5.2. Concentration

Concentration indicates both the quantity of domains sanctioned in a specific metaphorical relation and the frequency of appearance of these domains. The calculation of this numeric value was made for each metaphor sharing the same source concept, including a final average concentration of each source. Furthermore, another concentration value was calculated taking into account the type of integration and the frequency of occurrence of each one.

5.2.1. Concentration by source

The concentration range potentially can go from 0 to infinite, nonetheless, the maximum value in each case was selected as an ending point. That being so, the source concepts with the lowest concentrations are WEDDING with an average values of 1.340, followed by DINNER with 1.670, and MOVIE with 1.764. The source concepts with the highest concentrations are JOKE with an average value of 5.221, followed by THORN with 4.026 and TRAP with 3.306.

Table 5.2.1

Average concentration value by each concept serving as source

Source concept	Average concentration
Wedding	1.340
Dinner	1.670
Movie	1.764
Wife	1.970
Symphony	2.497
Viper	2.532
Memory	2.762
Trap	3.306
Thorn	4.026
Joke	5.221

5.2.2. Concentration by target

In relation to target concepts, those that presented the lowest concentrations are JOKE with a 1.985 average value, followed by TRAP with 2.047 and WEDDING with 2.066. The highest concentrations were DINNER, with an average of 3.443, MEMORY with 2.759 and MOVIE with 2.724.

Table 5.2.2

Average concentration value by each concept serving as target

Source concept	Average concentration
Joke	1.985
Trap	2.047
Wedding	2.066
Viper	2.198
Thorn	2.327
Symphony	2.356
Wife	2.529
Movie	2.724
Memory	2.759
Dinner	3.443

5.2.3. Concentration by type of integration

As for types of integration, those that presented the highest average concentration were METONYMY followed by METAPHOR while the least convergent type of integration was the LITERAL.

Table 5.2.3

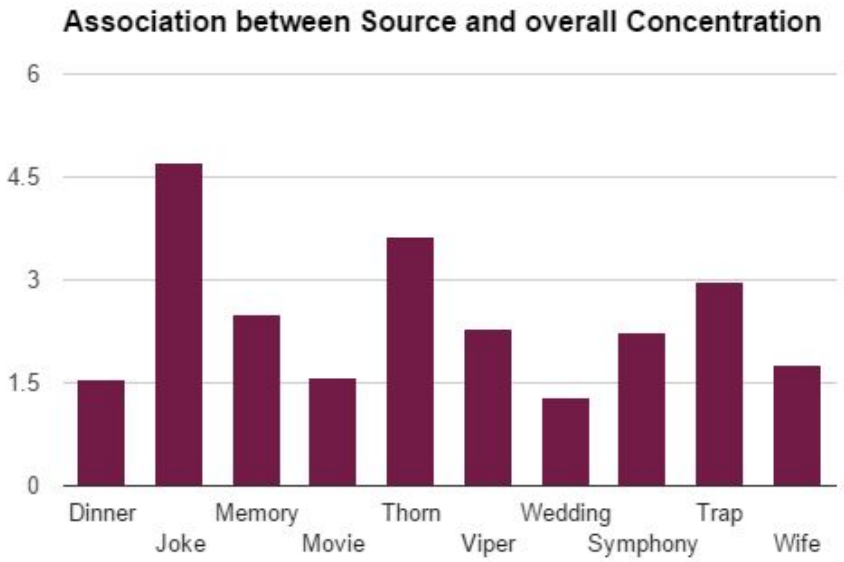
Average concentration associated with each type of integration

Type of integration	Average difficulty
Metaphor	3.366
Metonymy	3.503
Literal	1.137
No answer	1.510

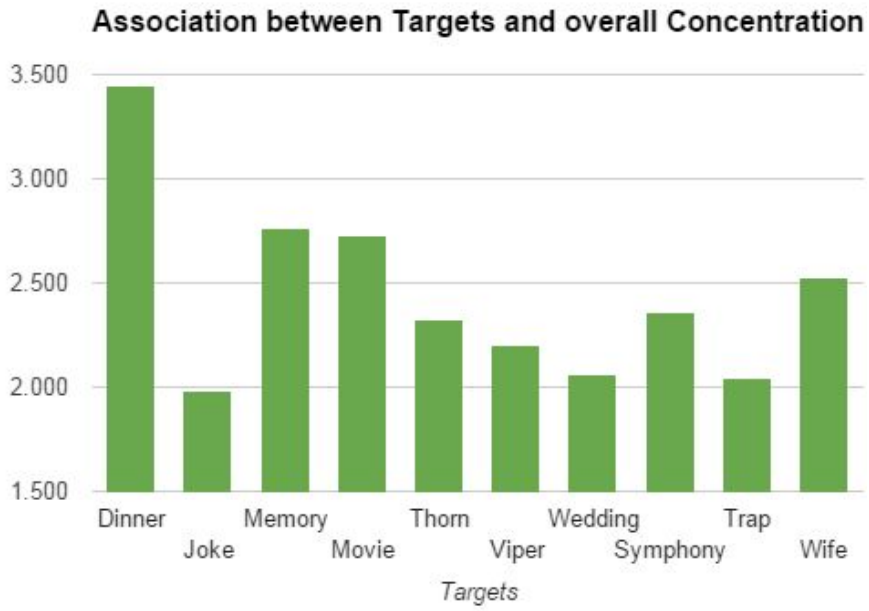
5.2.4. Global analysis of concentration

The global analysis of concentration comprises the average concentration of each source. By contrasting the average values obtained it is possible to observe the behaviour of all the concept domains as sources and targets, in relation with their concentration.

Hence, it is observed that the source concepts JOKE, TRAP and THORN sanctioned fewer different domains and/or featured a larger proportion of interpretations falling under a few specific domains (i.e, presented the highest concentration), whereas as target concepts, DINNER and MOVIE also presented the highest concentrations together with MEMORY.



Graph 5.2.4.1. This bar chart shows the concentration value associated with each source concept. The concepts JOKE, THORN and TRAP present the highest concentration value serving as source, whereas WEDDING, DINNER and MOVIE present the highest.



Graph 5.2.4.2. This bar chart shows the concentration value associated with each target concept. The concepts MOVIE, MEMORY and DINNER present the highest concentration value serving as target, whereas JOKE, TRAP and WEDDING present the highest.

The table below shows what the most convergent metaphors were, featuring the concepts that presented a higher value of concentration. In four of the 5 most convergent metaphors, the relationships present the three most convergent sources as well as the three most convergent targets. This is the case of *This memory is a thorn, This dinner is a joke, This movie is a joke,* and *This dinner is a trap.* The other metaphor features SYMPHONY as target, even though it was not part of the most convergent targets. However, its source is JOKE, which explains why it is one of the most convergent metaphors:

Table 5.2.4.1

Average difficulty concentration with each metaphor

Metaphor	Average concentration
This **memory** is a **thorn**	9.220
This **dinner** is a **joke**	8.539
This **movie** is a **joke**	7.757
This symphony is a **joke**	7.278
This **dinner** is a **trap**	6.338

Note. This table shows the average concentration associated with each metaphor, featuring the concepts that were considered the most convergent as both sources and targets. The concepts in black represent the ones that got the highest convergence values as either source or target.

Regarding the lowest concentration averages, the source concepts WEDDING, DINNER and MOVIE were the least convergent. Consequently, JOKE and TRAP obtained the lowest concentration together with WEDDING when functioning as target domains. This indicates that the position of the domain indeed influences the interpretation of the relation. In this case JOKE and TRAP in the source position act as attractors that sanction a reduced number of domains that repeat within the answers. Nevertheless as targets domains, JOKE and TRAP sanctioned a wide range of different domains, losing their capacity to elicit consistently the same domains in the relations. In this case the pattern observed among the concepts with the highest concentrations is

inverted. i.e, DINNER and MOVIE as target elicited the same concepts more frequently in the answers than in the position of sources.

Thus, the table below shows the metaphors with the lowest concentration value, which also features the sources and targets that were considered the least convergent. Only WEDDING and MOVIE were the targets for the 5 least convergent metaphors, while only WEDDING and JOKE were the least convergent sources for the same 5 least convergent metaphors. There is, however, one instance in which one of the least convergent sources meets one of the least convergent targets that, clearly, make up for one of the metaphors with the lowest concentration value, which is the case of *This wedding is a movie:*

Table 5.2.4.2

Average concentration associated with each metaphor

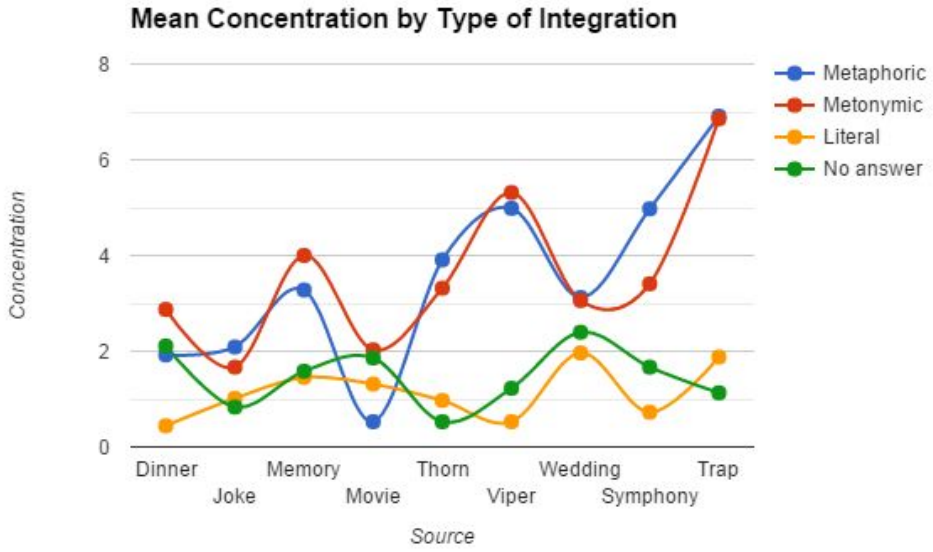
Metaphor	Average concentration
This symphony is a **wedding**	0.550
This **joke** is a **movie**	0.816
This viper is a **wedding**	0.874
This **wedding** is a **movie**	0.964
This movie is a **wedding**	0.975

Note. This table shows the average concentration associated with each metaphor, featuring the concepts that were considered the least convergent as both sources and targets. The concepts in black represent the ones that got the lowest convergence values as either source or target.

It is interesting to note that two of the least convergent features involve the same domains in inverted positions, i.e., the concept that one in instance serves as target, then serves as source, and vice versa which is the case of *This wedding is a movie* and *This movie is a wedding.*

In relation to concentration regarding type of integration, it is noted that METONYMY obtained the highest average concentration value (3.503), indicating that it was the most used mechanism when relating the source and target concepts, specially with the source TRAP that obtained 6.856 concentration average of metonymically linked responses. Then, METAPHOR was

used for relating concepts, obtaining an average of 3.366. Also, it is added that LITERAL interpretations and NO ANSWER presented the more or less the same range of variation with 1.137 and 1.510 average convergence respectively.



Graph 5.2.4.3. This line graph displays the concentration value associated with each type of integration.

5.3. Dispersion of difficulties and concentration values

5.3.1. Difficulty

The following table illustrates the different deviations of values from the mean for each source in the index of difficulty. In other words, this is a measurement of the degree to which different source domains exhibit one or more target-source combinations (specific metaphors) that deviate significantly from the average difficulty of the overall source.

Table 5.3.1

Dispersion of difficulty by source

Source concept	Dispersion of difficulties
Wife	0.314
Joke	0.407
Dinner	0.410
Wedding	0.428
Memory	0.494
Trap	0.543
Thorn	0.546
Movie	0.599
Viper	0.659
Symphony	0.808

Note. This table presents the dispersion of difficulty associated with each concept serving as source.

As can be seen in Table 5.3.1, the concepts SYMPHONY and VIPER are the most likely candidates to feature a metaphor whose difficulty is either much higher or much lower than the average for that source. A simple revision of the case of SYMPHONY reveals that T*his thorn is a symphony* shows an average difficulty of 4.14, a value quite apart from the source's difficulty, 2.85. The opposite is the case of VIPER: the metaphor that deviates from the source's average of 2.99 is THIS WIFE IS A VIPER, with a very low average difficulty of 1.52.

5.3.2. Concentration

Analogous to the index of difficulty, the values of concentrations for different sources also exhibit dispersion. Table 5.3.2 shows the level of dispersion of concentrations, meaning that those sources with the lowest levels are associated to targets in metaphorical constructions whose concentration stays quite close to the average. On the other hand, sources with higher levels are those which participate in metaphors whose levels of concentration differ greatly from the average.

Table 5.3.2

Dispersion of concentrations by source

Source concept	Dispersion of concentrations
Joke	0.086
Wedding	0.473
Wife	0.526
Dinner	0.728
Movie	0.764
Memory	0.931
Symphony	1.021
Trap	1.407
Viper	1.555
Thorn	2.124

Note. This table presents the dispersion of concentrations associated with each concept serving as source.

As with the previous procedure, it is now THORN and VIPER those more likely to feature a special metaphor in terms of dispersion. The average concentration of the source THORN is 4.026, however for *This memory is a thorn*, the concentration is a surprising 9.220. Similarly, the source TRAP, with an average concentration of 3.306, becomes particularly more concentrated in *This dinner is a trap*, with an index of 6.338.

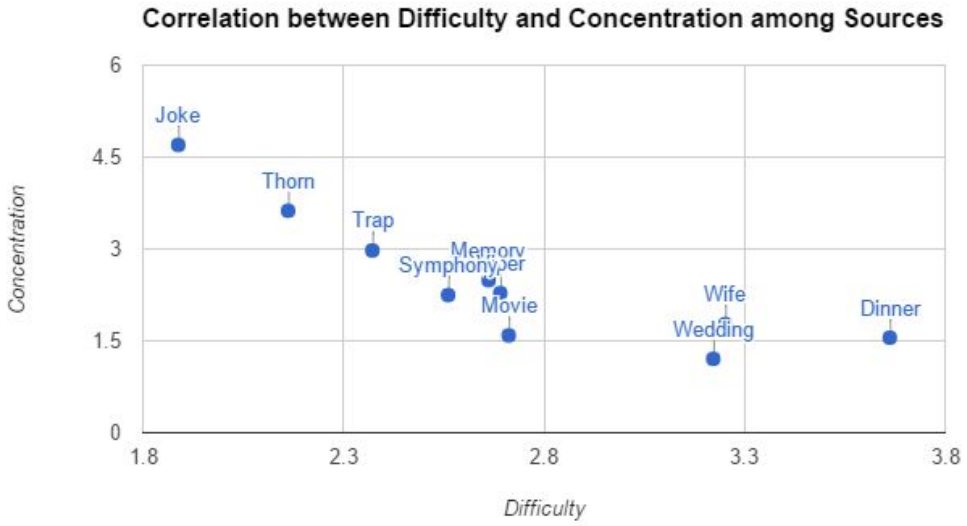
5.4. Correlation between difficulty and concentration

Regarding overall difficulty and concentration, two types of correlation can be established: positive or negative. Bearing in mind that difficulty and concentration are measured differently in relation to numerical values, it is important to consider that the correlations are made possible because the values are compared to the rest. Thus, a value is high or low in relation to the rest of values.

Positive correlations are inferred whenever there are proportional relations, either direct or inverse. A direct proportionality occurs when the difficulty value is low and the concentration number is elevated. On the contrary, an inverse proportionality is obtained when the difficulty value is high and the the concentration is low. Negative correlations refer to relations in which the indicators are rather stable, which means that one of the variables does not seem to have any relation with the other.

5.4.1. Positive correlations

In the case of positive correlations, six salient instances could be identified in the results, being all of them in a inverse proportional relation. There were three source concepts with a low difficulty value that presented high concentration are JOKE, THORN and TRAP, while, the three source concepts that were assigned a high difficulty value were DINNER, WIFE and WEDDING, which had a low concentration number.



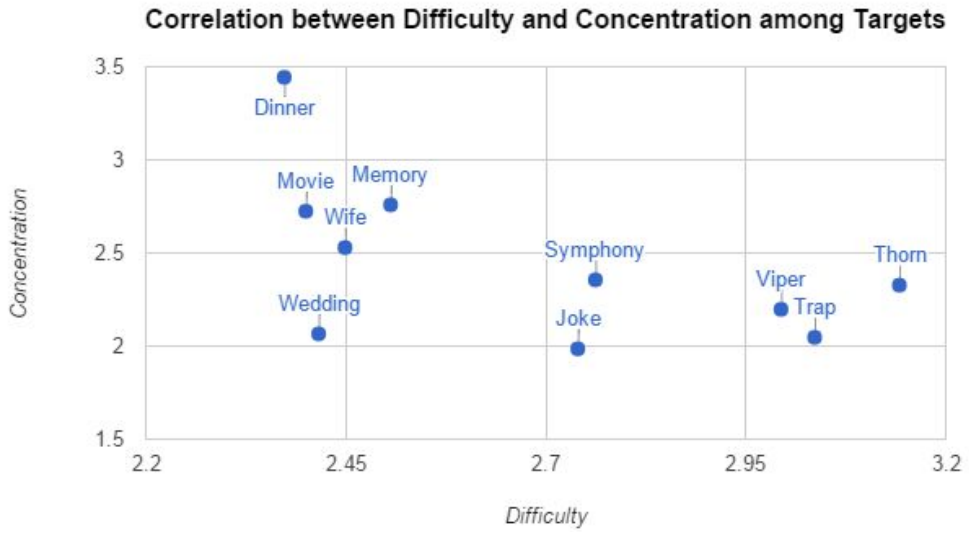
Graph 5.4.1. This graph displays the correlation between difficulty and concentration among source concepts.

5.4.2. Negative correlations

Regarding negative correlations, three cases did not present in their values a significant interdependence, that is to say, the numeric value of difficulty seems not to vary in accordance to

the value of concentration, or vice versa. These three source concepts are SYMPHONY, MEMORY and VIPER.

Furthermore, it could be seen that there was no clear correlation between difficulty and concentration when it came to target concepts, as there were target concepts which presented both low difficulty and low concentration, and the converse case.



Graph 5.4.2. This graph displays the correlation between difficulty and concentration among target concepts.

The quantitative analysis has focused on the hard data pertaining to the answers given by the participants. The statistical analyses have revealed those cases that are more representative for all indicators, namely the most difficult and the easiest, the most concentrated and the most disperse, and the most common sanctioned domains for metaphoric constructions. The analysis also emcompasses overall differences between concepts used as sources first and targets later, as correlations are drawn among all the previously mentioned aspects.

Statistical indicators include a calculation of dispersion over difficulty and concentration, which help to point out those source concepts whose difficulties and concentration values diverge more. This, in turn, reveals which source-target pairings show particularly different interpretations because of reasons to be discussed next.

The following section is a discussion of the most salient quantitative phenomena in the light of the previously presented theoretical framework. Both global and individual situations are analysed from the data above.

Chapter 6

Qualitative Analysis

In the previous chapter, the results obtained were analysed quantitatively considering three indicators: degree of difficulty, level of concentration and convergence both of difficulty and concentration. In each case, it was seen how the indicators behaved in respect to source and target concepts respectively, and also in relation to the type of integration of the metaphorical expressions. The most representative cases of each indicator, that is to say, the higher and lower numeric values were correlated in order to identify correspondences between these values and the phenomena explored in this study. In this sense, the aim of the quantitative analysis was to set certain numeric patterns and correlations that could account for the bidirectional process of mutual selection between sources and targets and the scaling continuum that leads to metaphoricity. The degree of difficulty and entrenchment understood as convergence of types of integration, domains sanctioned, source and target concepts are also indicators that could illustrate the emergence of metaphoricity.

The purpose of this section is to characterise certain processes that operate when a conceptual relation is made and also to provide certain explanations based on the theory previously exposed by means of the results. In a broad sense, this chapter deals will matters regarding the construal potential both of source and target concepts, the featural aspects populating the scale of interaction, the conceptual make up between spaces and finally concerns on inversion, directionality, metaphoricity and metonymy. Thus, in order to accomplish the objectives of this study, and ultimately, to see to what extent the assumptions presented in the hypothesis are met, the most significant values and correlations will be analysed in depth considering accurate instances of metaphors and source-target relations for each matter.

6.1. Towards a bidirectional interplay between source and targets concepts

6.1.1. .Width of scope and schematising potential of the source over the target.

The results previously showed revealed that three source concepts, JOKE, THORN and TRAP, presented the lowest average values for difficulty and the highest values for concentration

of domains. Furthermore, the conceptual relations wherein these source concepts were present were interpreted metaphorically, showing as well a greater concentration in this type of integration. The easiness and high concentration demonstrate that the schema of these sources, specifically, were generally easily mapped onto the targets, that is to say, at the moment of interpreting people made a cross-domain mapping without complications. Besides, these interpretations fell under a few specific domains which were either related to central features of the source concept and its schema or an emergent structure that compiled characteristics both of the source and the target concepts. Thus, there are three primary aspects that account for their ample width of scope and great schematising potential; first, the capacity of these source concepts to encompass distinct types of targets; second, the property of sanctioning different domains and of concentrating the interpretations in fewer domains; and third, the easiness of integration of the domains.

Starting with the source concept JOKE, it could be seen that it proves to be the easiest to integrate metaphorically and the one with the highest concentration among the ten source concepts studied. It is worth to note that this concept was taken originally from the **complex (unified schematic)** metaphor *This symphony is a joke.* This means that its schema will be mapped onto distinct targets equally, sanctioning domains that could be related to the features of the schema. For instances, a JOKE is thought to be successful when it has a humourous result. This humourous effect is mainly accomplished by the creation of expectations in the hearer that are not fulfilled at end. Then, JOKE has a **source-path -goal** schema, as it primary purpose is to cause a specific effect by means of the performed action. However, as it was mentioned before, a humourous result is generally obtained when throughout the process or **path** something that causes surprise or that breaks the expectations occurs. This could explain why JOKE mainly sanctioned either the domain of BAD QUALITY or domains that allude to a kind of BAD QUALITY, although the latter is not necessarily intrinsically related to the concept. It seems that every time an X target concept was understood in terms of JOKE, this means that the target concept did not accomplish the expectations, that is to say, the target did not accomplish some of the intrinsic properties or requirements of the category and, therefore, it ended up being something of BAD QUALITY or characterised negatively. Actually, the majority of the interpretations of *This*

symphony is a joke pointed out that symphony as a result was not organised or was poorly produced, and for that reason of BAD QUALITY. Regarding this, the results revealed that in other metaphorical expressions where JOKE was involved, the interpretations tend to characterise negatively the target sanctioning domains such as *falseness, banality, stupidity, simplicity, annoyance and innocuousness*; however, in fewer occasions, the domains sanctioned referred to something humourous. This demonstrates that, in this case, it is the schema of the source what defines the type of possible domains that can be sanctioned, and not necessarily the semantic meaning of the source itself. Thus, the type of schema determines the width of scope of a specific concept, in the case of JOKE it is the schema of **source- path– (not accomplished) goal** what makes this source concept schematically transferrable to any concept or situation in where expectations play a role . Thus, the schematic properties of JOKE not only make of it a concept that is suitable for operating as a source within the conceptual system but also a source concept that can be easily integrated as the quantity of target concepts that can be encompassed by its scope is great.

The concept that followed JOKE as one of the easiest integrated and highest concentrated ones was THORN. This source concept was taken from the **basic-schematic** metaphor *This memory is a thorn*. In this metaphorical relation in particular, the majority of the interpretations sanctioned the domain HURT, in other words, people tend to transfer the physical outcome of pricking yourself with a thorn, the pain, to the action of remembering. The basic- schema of THORN, as a higher abstraction, is the result of an embodied experience of the **contact** between a thorn and the body. That can explain why the results showed a considerable tendency to sanction the domain of *unpleasantness* and *hurt* within the distinct targets concepts. At the moment of interpretations, the most salient feature of THORN was mainly its potential to hurt and to provoke unpleasantness; however, other domains such as *adhesion*, *danger*, *complication, sharpness, complexity* and *mark* were also sanctioned. Even though these domains were less concentrated in comparison with *hurt* and *unpleasantness*, the presence of these domains demonstrate that there was not only a tendency to characterise the target in terms of the painful an unpleasant contact between thorn and body, but also there was certain essential features of the thorn (like adhesion or sharpness) that were mapped onto the targets. In the case of the domains of *complication*,

danger and *complexity*, these seemingly appeared when the target concept had a stronger influence in the metaphorical relation and their salient features led people to interpret the relation taking as reference a "situation" rather than only the concept (e.g. In *This viper is a thorn* and *This trap is a thorn* what was complicated or dangerous was the possibility of getting hurt by them or getting trapped in a situation that involved the action of the entities). In that sense, this proves that the source's scope and schematising potential of it not only is capable of transferring and projecting the proper schematic characteristics of it, but also of sanctioning specific features of the target concept that are most likely to be sanctioned through a specific metaphorical relation. Furthermore, just as JOKE, the concept THORN has a schema which is capable of encompassing different kinds of concepts; concentrating the bulk of the interpretations in few domains.

Lastly, the third source concept that proved to be easy to integrate, highly schematic and concentrated is TRAP. This source was originally present in the metaphor *This dinner is a trap* and operates as an **image-schema** of **containment**. Taking as an example this specific metaphor, it was possible to see through the results that the interpretations were concentrated and mainly sanctioned the domain of *deceit*, this domain being in particular the most concentrated among all the domains. In *This dinner is a trap*, the image-schema of containment is projected onto the event; being interpreted generally as a situation in which a person is involved or trapped due to deceit. In other words, a person is trapped in this dinner as result of a deceitful intention or purpose. In this instance it is seen that both source's schema of containment and the target characteristics (or frame involved) interact in such a manner that the schema accommodates to a whole event and not only to a feature of the target concept. This is also seen in other two highly concentrated metaphors that apparently worked similarly: *This joke is a trap* and *This wedding is trap*. In the first, just as in *This dinner is a trap, deceit* was one of the most sanctioned domain and in the second, namely *falseness,* which is semantically related to deceit, concentrated the majority of the interpretations. In these cases, both JOKE and WEDDING were mainly interpreted as events that involved a type of containment, however, people ended up being involved "into" these situations as a result of a deceitful intention, hence, the sensation of being trapped. Thus, in these instances, it is the interplay between the schematising potential of TRAP and the

schematicity of the target concepts DINNER, JOKE and WEDDING what allows the emergence of *deceit* and *falseness* as domains of these metaphorical relations and also a considerable concentration among them.

Finally, although the source concept VIPER did not present a high average of concentration or a low value of difficulty, there was a metaphorical relation in which this source operated that is worth to bring into the discussion. The metaphor *This wife is a viper* presented the highest value of concentration among all the metaphors in where VIPER was functioning as a source and also proved to be the easiest to integrate among all the metaphors of the data. As it was previously said, high concentration and easiness of integration could be taken as indicators of a wide scope and great schematising potential, nonetheless, this metaphor in particular supports the idea that there are certain cases in where other factors come into play. In *This wife is a viper*, the schema that operates is **cultural**, that is to say, the source schema does not operate as an image-schema but actually the mapping is done according to subjective experiences or to culturally. The first account for interpretations that are led by the subjectiveness of a person towards a specific concept, and the second refers to metaphorical expressions whose conceptual relation due to frequency of co-occurrence are either lexicalised or entrenched, in this sense, cultural models.

Therefore, the sanctioned domains within the domain matrix will vary depending on the subjective experiences of the person. The fact that most of the interpretations were concentrated in one domain not necessarily is due to the level of schematicity of the source but actually to a culturally inherited relation between the concepts. In this sense, what provoked the high concentration in this metaphor was the conceptual relation between WIFE and VIPER, specifically. Apparently, culturally there is a strong relation between a female image and viper itself. For that reason, it was easier for the participants to make an immediate mapping of the poisonous and killing potential of a VIPER to the *meanness* of a woman, particularly of a WIFE. Notwithstanding, other instances in where the source concept of VIPER operated (i.e. *This symphony is a viper* or *This wedding is a viper*), the concentration values not only were considerably low in comparison to other sources and metaphors in general, but also the quantity of sanctioned domains was high (15 and 13 respectively). This proves that VIPER within the conceptual system may not function

properly as a source concept, as its schematising potential is limited to certain concepts that can be linked to it culturally or as a result of subjective experiences. Besides, the divergence of interpretations demonstrated that the lack of schematicity of the source prompted for a construal of the conceptual relation on the moment, that is to say, people attempted to make sense out of these expressions recurring to subjective experiences and connecting them almost intuitively. Opposed to this, the previous sources JOKE, THORN and TRAP proved to be highly schematic as they could be projected onto various targets, having also a substantial concentration in few domains. Moreover, the schemas of these sources not only were projected over the schemas of different domains, but also were instantiated by them differently (i.e. both in *This dinner is a joke* and in *This symphony is a joke* the most sanctioned domain was BAD QUALITY, however, the first refers to an unsatisfactory preparation of the food; and the second, alludes to an insufficient performance or organisation of the SYMPHONY). Considering this, then, it is appropriate to say that even though there are certain concepts that are more suitable to be used as sources due to theirs schematicity, there are others that can operate and be structured by means of cultural networks.

Conclusively, the cases previously analysed support a possible correlation between the value of concentration, the low difficulty of integration and the width of scope of a specific concept. The results showed that the source concepts JOKE, THORN and TRAP stand out as the most schematic among all the others, presenting higher values of concentration in few domains and being integrated with ease. Although these three cases in particular were distinct in their schemas (unified schema, basic schema and image schematic), they proved to have not only a great schematising potential but also a great capacity for encompassing various concepts. Besides, their schematic properties and width of scope facilitate the capability of the target to construe the source domain's matrix, that is to say, the ability to conceive the same situation in alternate ways (Langacker, 2008). Following this line, the target potential for construing a source could be seen with the source concept VIPER and specifically with the example of *This wife is a viper*. In this instance, the high concentration corresponded to an inherited conceptual relation between WIFE and VIPER, in that sense, the conceptual relation was not structured in terms of an image-schema. Furthermore, the source concept VIPER presented a high divergence

and high degree of difficulty for encompassing many concepts, hence, its schematising potential proved to be very limited. However, it is worth to notice that even with this complication people sanctioned domains according to the salient aspects of the concepts and thus were able to came up with interpretation that at times converge. This demonstrates that there is always the possibility for a construal in term of interpretations, and also that in a conceptual relation the target potential for construing the source domain's matrix matters as much as the schematising potential of the source. Therefore, the target has the capacity of evoking distinct domains depending on the schematic properties of the source concept, thus, taking place a bidirectional interaction between the source's domain and the target' domain.

6.1.2. Capacity of the target concept to construe the source's domain matrix.

As presented in the subsection above, the source has a schematising potential over the target, and the width of scope of the target has an influence on what elements are sanctioned in a given metaphor. However, that is not all there is about the mapping. An equally important point has to be considered, and this is the capacity a target concept has to construe the source's domain matrix and the emergent structure. There are two types of elaboration that have the influence of the target concept. On the one hand, on of these types of elaboration consists on the potential the target has to construe the source's domain matrix by choosing an element to be projected onto the emergent structure. This is the case for metaphors with partonymic schematicity, as the target selects one part of the matrix. On the other hand, the other type of elaboration consists of the potential the target has to elaborate on the emergent structure as the final product, instead of going through the process of selection. This is common to metaphors with different types of schematicity: basic schemas, image-schemas, unified schemas, and cultural schematicity.

6.1.2.1. Selection of the domain matrix

The first case to be analysed is when the target construes the domain matrix of the source. This means that the target also selects aspects of the source from all the possible elements that

can be mapped onto the target domain. This implies that the target can lead the source towards the most effective mapping that can give rise to a metaphorical interpretation. In this sense, the bidirectional process of mutual selection is present on the construction of a metaphor. A diagram explaining this interaction is presented below:

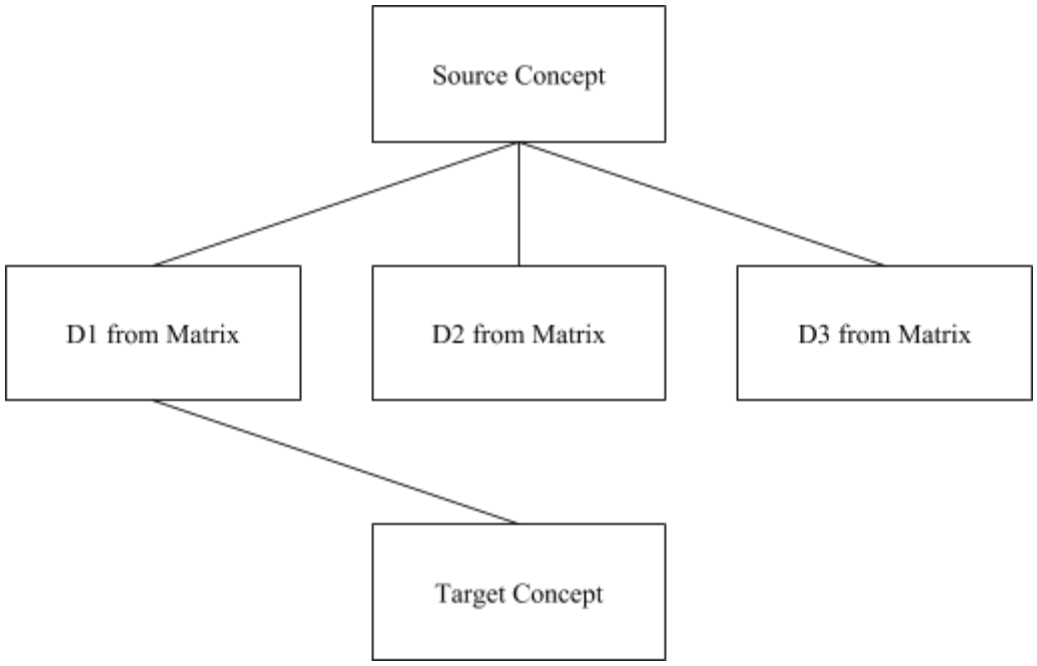


Figure 6.1.2.1.1. The present diagram displays the bidirectional interaction between source and target concepts.[1]

The diagram describes how the relations of mutual selection and interaction occur. The source concept needs to be mapped onto the target concept. However, this mapping is not a direct process of projection of elements onto the emergent structure in all cases, as in the case of the Integration Networks proposed by Fauconnier and Turner (1998), and it is not done until the target helps the source to select one element of its domains matrix. Therefore, the source concept possesses several subdomains that constitute its domain matrix, which are presented as elements in the diagram by the name D1, D2 and D3. Of all these possible elements that can be mapped onto the target, only one is selected, in some significant cases, as the most suitable element for the target. This is the reason that in some cases different targets with the same sources sanction different aspects. For example, take the case of metaphors with SYMPHONY as the source

[1] This diagram had as its basis the Network model proposed by Fauconnier and Turner (1998).

concept. This concept combined with 9 different targets obtained an average of 8 different domains sanctioned, which at first glance tells something about its nature as a source; the interpretations of metaphors containing SYMPHONY as a target are not fixed nor restricted to only one type of interpretation. Hence, there must be something in the nature of the targets that combined with SYMPHONY allow for the sanctioning of different domains. In the metaphor *This memory is a symphony*, the subdomain that was most repeatedly sanctioned was *joy*, and some of the interpretations that sanctioned this subdomain provided by the participants were:

1. Es un recuerdo agradable
2. Es un recuerdo lleno de emociones
3. Que esta memoria es maravillosa
4. Un recuerdo tan placentero, que llegaba a recordarse como se recuerda la música.

Domains of distinct nature are sanctioned in *This trap is a symphony*, in which *structure* and *organisation* seem to be the subdomains with more popularity in this relation. Some of the interpretations provided for this metaphor were:

1. Complejidad en la trampa, bien elaborada
2. La trampa está muy bien planeada
3. La trampa está organizada, donde todas sus partes actúan cohesionados y en armonía

These instances are very much similar in terms of the domains sanctioned, with a slight difference in the word chosen to represent the domains of *structure* and of *organisation.* Hence, what the target selects from the domain matrix of the source is different to the elements of the previous example, which consisted of elements related to the domain of *joy*. To make the influence of the target more clear, the case of *This dinner is symphony* is presented, in which then again another domain is highlighted, and this is the domain of *good quality*, with its elaboration of *good taste*. The examples below highlight this instantiation:

1. La comida servida está muy rica
2. La comida está realmente bien hecha y deliciosa
3. Una cena deliciosa

These are all interpretations in relation to *good (taste) quality,* domain which was sanctioned 10 times in total. It might be that the sanctioned domain is not as convergent as *structure* or *organisation* in the previous metaphor, but it still exemplifies the fact that the frame in which the target is immersed can determine which element the source will project onto the target. Therefore, the diagram presented above can be explained in terms of all these metaphors, but it will be presented taking in consideration *This memory is a symphony*, and all the different subdomains discussed:

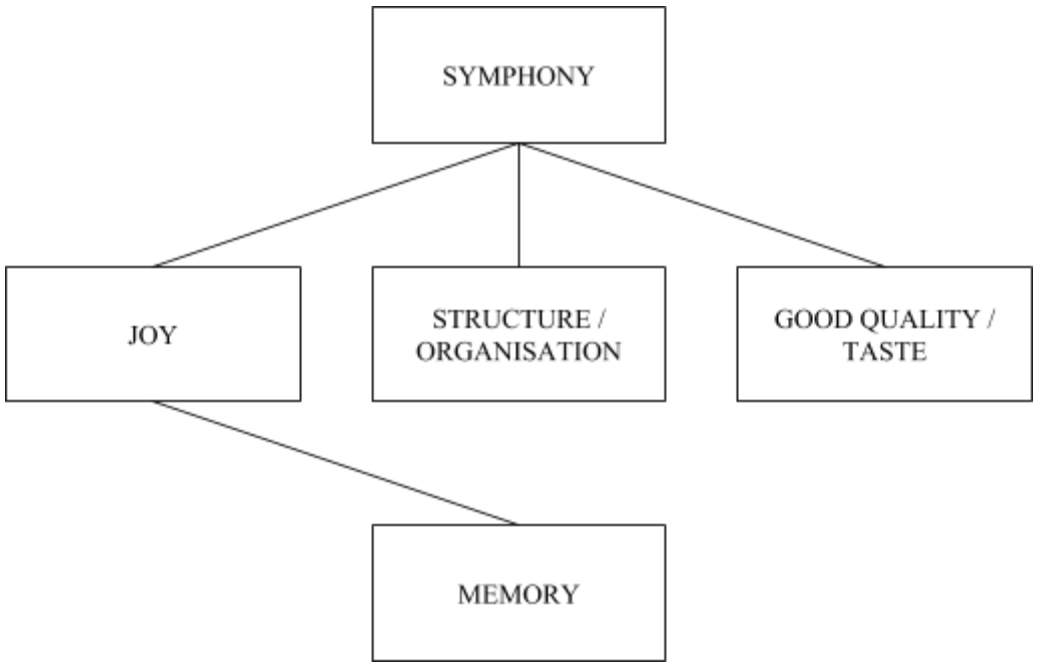


Figure 6.1.2.1.2. The present diagram displays the bidirectional interaction between source and target concepts in *This memory is a symphony*, with SYMPHONY as source concept with its domain matrix, and MEMORY as target.

If the model of integration by Fauconnier and Turner is taken into consideration (as mentioned in section 2.7), the blended space, which is the resulting metaphor, would not be directly connected to the inputs spaces of the mapping, as this could not account for the role that the target plays. The original Integration Network, presented below, explains that the two input spaces are mapped, and that the commonalities between these input spaces constitute a generic space. Given that there are elements of the different spaces that can be mutually mapped onto each other, the blended space *emerges*, this being the result of the elements that are *selectively*

projected. That is, not all of the elements are projected onto the emergent structure, so there is a process of *selection*, and these selected elements allow for the *elaboration* of an emergent structure. Therefore, this model proposes three processes: the 'selection', the 'elaboration' and the 'emergence'.

Conceptual Integration Network (Fauconnier & Turner, 1998; 2003)

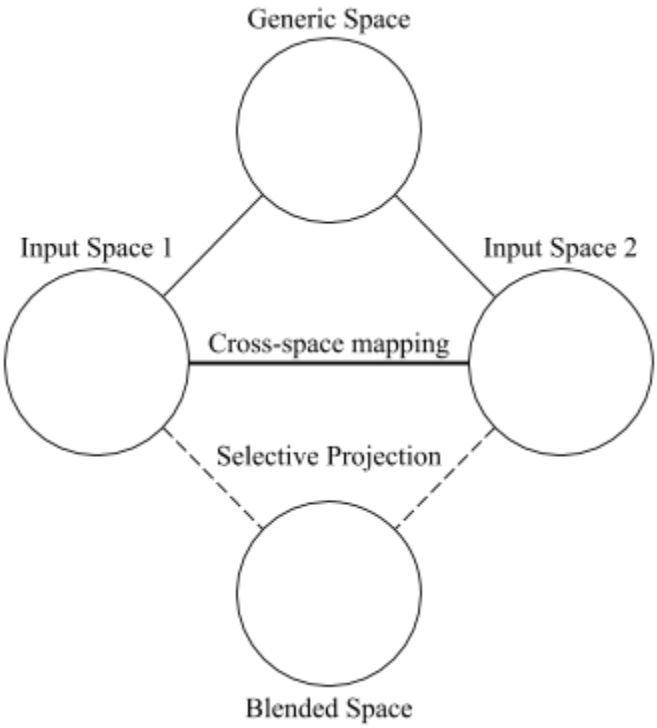


Figure 6.1.2.1.3. This is the 2003's edition of the original diagram of the Conceptual Integration Network by Fauconnier & Turner (1998), which adds the concept of selective projection in the diagram.

As can be seen, this model cannot really account for the role that target concepts take in the process of elaboration. If the source concept SYMPHONY is positioned, in the place of the input space 1, and any of the already mentioned target concepts positioned as the second input space, it would mean that the mapping would occur in the light of searching for commonalities between those two spaces or domains, in order to constitute the generic space. In the metaphor *This trap is a symphony*, the common feature would be either *structure* or *organisation*, selected features from the two spaces which meet in the generic space, and then are elaborated towards the construction of metaphorical meaning, which is present in the emergent structure. However, this does not explain that the process of selection is also mediated by the target concept, and that the target also has a major role in the elaboration. Thus, it can be understood that in the three

different metaphors *This memory is a symphony*, *This trap is a symphony* and *This dinner is a symphony* have a different selective projection because of the different targets, as they pick the most suitable subdomain from the matrix to project onto the emergent structure, and hence rendering the construction process bidirectional; the source has a repertoire of domains that are offered to the target, and the target is the one that ultimately selects. This process is true for those instances in which the level of schematicity provided by the source is **partonymic**, as the target has the possibility to choose 'one part' of the source concept. Then, it can be inferred that SYMPHONY as target allows for interpretations of a partonymic nature. The partonomy arises when a source concept has no defined schematic interpretation as is the case of concepts as JOKE (see subsection the previous section, 6.1.1)

6.1.2.2. Elaboration on the emergent structure

The second type of elaboration has to do with a rather less direct selection process from the target, as they construe the emergent structure rather than the domain matrix. This is because the target has not access to the domain matrix of the source because of its schematicity. This type of elaboration is more classical as it correlates to the Conceptual Integration Networks. It is important to note that in the metaphors that presented JOKE as a source concept, the interplay between source and target is different from the partonymic as it obeys this second pattern. Some of the reasons that can be attributed to this phenomenon are the different levels of schematicity, lexicalisation and cultural interference, amongst others. In the case of SYMPHONY, there was a possibility for the target to construe the domain matrix of the source because the latter did not have a fixed interpretation to it, or a single underlying schema. The interpretations provided were indeed metaphorical in their majority, however the type of integration of those metaphorical elaborations is different from what happens to JOKE as source, and other concepts as targets.

In the case of JOKE, it seems that there is an intrinsic interpretation of this concept as source, and this can be seen in the emergent structure of all metaphors with JOKE as source: this is *bad quality*. This concept serving as source presented a rather small variety of subdomains serving as the emergent structure for the elaboration of the metaphor with roughly five domains

highlighted for the nine combinations with JOKE as source. Amongst all of these domains, *bad quality* was sanctioned most of the times and was present in every metaphor, suggesting that there might be something inherent to JOKE that is the final product of the blend. Different examples that featured this highlighted subdomain are presented:

1. *This wife is a joke*
    a. No es muy buena esposa
    b. Una esposa que no cumple con sus deberes

2. *This symphony is a joke*
    a. Mala música
    b. La sinfonía es de mal gusto o mal organizada

3. *This trap is a joke*
    a. La trampa está mal ejecutada o planeada
    b. Una trampa muy mal hecha, de cual es fácil escapar

4. *This movie is a joke*
    a. Es una película mala
    b. Una película mala, baja calidad, no vale la pena verla

5. *This dinner is a joke*
    a. La cena está muy mala
    b. Esta comida es pésima

In this case, the subdomain of bad quality, which is not necessarily a quality of the source nor of the targets, is in itself an emergent structure which is further elaborated, or instantiated by the targets. There might be a reason for this entrenched-like interpretation of the concept JOKE as a source, and it may well be the case that its entrenchment is the product of lexicalisation, i.e. a fossilisation of one of the many meanings that the word JOKE can have. This would explain why *bad quality* was preferred largely beside *fun, entertainment*, or other aspects that can constitute the domain matrix of JOKE. What is argued for is that JOKE does not have a clear domain matrix when serving as concept really, but that it rather already carries an emergent structure with it. This is an important point to consider because all of the metaphors that had JOKE as their source

converged in the fact that *bad quality* was the sanctioned domain, or emergent structure.[2] This means that JOKE presents a **unified schema** from which a single interpretation, or a predominant one, can be obtained through the relation between the source and target concept. Thus, for every target concept, being matched with JOKE involves bad quality of the domain of the target. Therefore, the role of the target seems to be not as direct as in the previous instances of SYMPHONY. However, the target also does have a role, which is an elaboration on the emergent structure. In the previous case, the target elaborated an emergent structure alongside the subdomain from the source's domain matrix; but in this case, the target comes to specify the emergent structure. In other words, the target will decide which type of *bad quality* applies and best suits the target domain, so *bad quality* for DINNER will be in relation to taste or preparation, while bad quality for MOVIE will highlight *boredom* or *bad film producing abilities*. Therefore, what occurs in the integration is different:

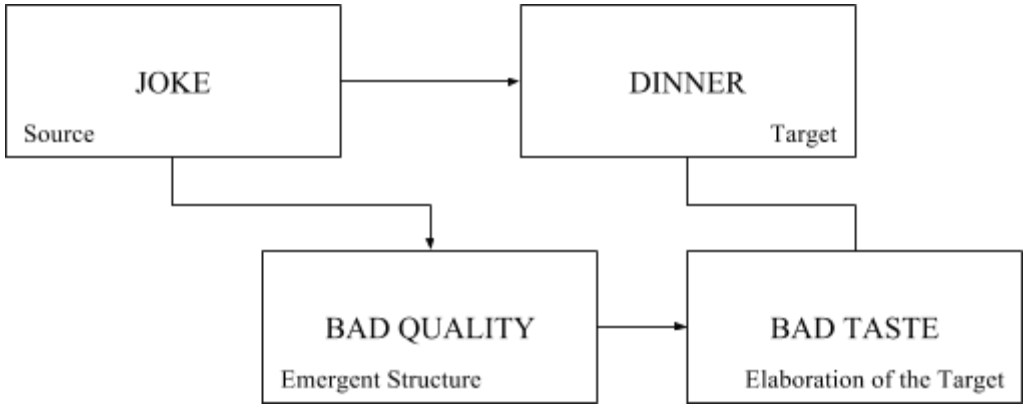


Figure 6.1.2.2.1. This diagram displays the indirect role of the target in the process of elaboration of the emergent structure for the source JOKE.

In the present diagram, it is seen that there is a mapping between the concepts JOKE and DINNER. It is also seen that the emergent structure, which is *bad quality*, stems from the source. Then, it is specified by target as being *bad taste* quality, which is an instantiation much more distinct of the domain of DINNER and the semantic frame associated. In *This symphony is a joke* the instantiation is pretty similar because it only changes from *bad taste* to *bad sound*, and they

[2] The domains sanctioned and elements of the domain matrix are mainly understood to be different from emergent structure. However, in the case of JOKE as source , it was noted that the sanctioned domain did not really belong to the domain matrix; thus, it constituted an emergent structure.

are both in the realm of the physical senses. However, this type of *bad quality* is not the same that is sanctioned when the target concept is TRAP, in which *bad quality* refers to lack of organisation or planning, then a *bad structure,* or *malfunction.* In the case of *This wife is a joke*, it is understood that the *bad quality* implies that there are certain expectations that are not met. For instance, the wife is not caring, does not do certain tasks, and other issues related to, perhaps, the idealised model of wife, in which there are some specific features that contribute to the elaboration of a prototypical wife. This is similar to the cases of *This thorn is a joke* and *This viper is a joke* as both these domains fail to cause damage, and thus are bad quality because they do not function well. Hence, it can be said that the target's role in the metaphors with unified schema is to elaborate different instantiations from the emergent structure.

This pattern is also observed in metaphors of a different schematicity, such as metaphors with the source concept VIPER that presents a cultural schema, or a cognitive model associated with it. This can be understood under the scope of the metaphor *This wife is a viper*. This is because in many of the interpretations for metaphors that had VIPER as a source, VIPER was understood as either a woman or as an evil person, which is basically the entrenched meaning of *This wife is viper.* Even though this source was one of the most difficult to be mapped onto a target, there were instances in which the emergent structure of the metaphors presented the subdomains of woman and/or evil person, sometimes separately and sometimes combined. This can be evidenced in the following examples:

1. *This wife is a viper*
    a. Una mujer malvada
    b. Esta esposa es una mala persona, sólo quiere hacerle daño a su marido

2. *This trap is a viper*
    a. Caí en la trampa de una mujer maldita y mal hablada, también cahuinera.

3. *This thorn is a viper*
    a. La persona es mala y venenosa, envidiosa

Even though these examples are not representative of the association of *woman* with VIPER, it is evident that sometimes the one stands for the other. Thus, there is a metonymic relationship

between VIPER and *woman*, which is also enhanced in the ICM of WIFE as these are inferences influenced by culture. In this sense, the role of the target is not direct in the blend, as the emergent structure is very much entrenched and would leave no space for further elaboration. However, when the sanctioned subdomain is *deceit*, the same dynamics of JOKE occurs, allowing the target to elaborate on the emergent structure. As the schematicity of VIPER is **cultural**, the elaboration of the targets on *deceit* is also culturally motivated, constrained the semantic frames that encompass the concept. For instance, when the target is DINNER, *deceit* is understood as if the whole preparation of the food and the dinner itself were elaborated with hidden intentions; when the target is JOKE, *deceit* is understood as if the person telling the joke is doing it with hidden intentions as well. Even though the emergent structure is the same, there are slight differences due to the presence of the source. However, it cannot be said that the target has an active role as it had for JOKE, as it cannot have a major role in the elaboration process besides instantiating the emergent structure. It is also opposite to SYMPHONY, where the partonymic nature of the source is clear and allows the target to have a larger participation on the elaboration.

In relation to **image-schematic** metaphors such as those with source concept TRAP, *deceit* is again the most sanctioned domain. The interpretations of metaphors with TRAP as source take in consideration the image schema of captivity and enclosement. The emergent structures are all rather similar, as in all cases people would say that they see themselves trapped in a situation they would not want to be as in a wedding, in a dinner, etc. However, the target also has an important role as it can modify the effects of the trap. For example, usually being trapped at a dinner, a wedding or a joke has a negative connotation, but when people are trapped by a movie, a symphony, TRAP is endowed with a positive connotation because the concepts representing the targets e.g. catches their attention, etc. This can be seen in the following interpretations:

1. *This dinner is a trap*
    a. Hay un engaño detrás, me cobrarán mucho dinero
    b. La cena fue una estafa, no era lo esperado

2. *This joke is a trap*
    a. La broma tiene la intención de engañar
    b. La broma va dirigida por un cierto propósito, no es inocente

3. *This wedding is a trap*
    a. El matrimonio es un engaño
    b. La boda es arreglada, o se casaron por conveniencia

4. *This symphony is a trap*
    a. Una melodía cautivadora
    b. Una pieza musical tan sublime que me tiene atrapado

It can be inferred, then, that then again the target has an influence specifying the emergent structure and adding what is most suitable for the target. Something similar occurs with metaphors of a **basic schema**, as when THORN behaves as a source, due to its embodied nature. The most sanctioned domain for this source is pain, followed metonymically by *unpleasantness* which are then specified by the target. For instance, if *This memory is a thorn*, it is understood that memories are hurtful and evoke sad or negative feelings; *This wife is a thorn* is understood as the wife being *unpleasant* and provoking either discomfort or pain on the husband. What is interesting to note is that in the relation *This dinner is a thorn,* the thorn is understood in terms of *bad quality*, besides from any literal interpretations there can be. The same occurs with *This movie is a joke*, in which *bad quality* is also the most sanctioned domain. Thus, even though THORN is an embodied source with a basic schema, there are instances in which an emergent structure similar to JOKE occurs. Furthermore, the presence of the target is more noticeable than in the other metaphors with single schema, as the interpretations tend to highlight that a movie or a joke have a bad quality because the movie makes people feel uncomfortable or sad. Here are some examples for that:

1. *This movie is a thorn*
    a. Es tan mala como si una espina estuviera dentro de mí
    b. Una película malísima que llega a molestar verla
    c. Una película muy mala que duele de lo mala que es

2. *This dinner is a thorn*
    a. Una cena muy mal preparada, difícil de comer
    b. La cena es una molestia
    c. La cena es molesta, desagradable y no puede disfrutarse

These examples show how the same effects of an embodied feature can elaborate an emergent structure, as bad quality is not necessary a domain of THORN, nor MOVIE or DINNER. This proves, again, that the target is able to construe the source's domain matrix and also the emergent structure that sometimes is intrinsic to the source. Thus, the model of Fauconnier & Turner can be extended in two ways: the one is taking in consideration that the domain matrix can be looked into by the target and that can select something from it, and the other is saying that the target can elaborate the emergent structure when it cannot look into the source's matrix.

It can be concluded that, on the one hand, the Integration Network for metaphors with partonymic schematicity depends on an active process of selection by the target over the source's domain matrix. Thus, the selective projection implies the selection made by target and the most pertinent subdomain from the source in order to be mapped onto the blended space or the emergent structure. In this case, emergent structure is an indeed novel space which needs no further elaboration.

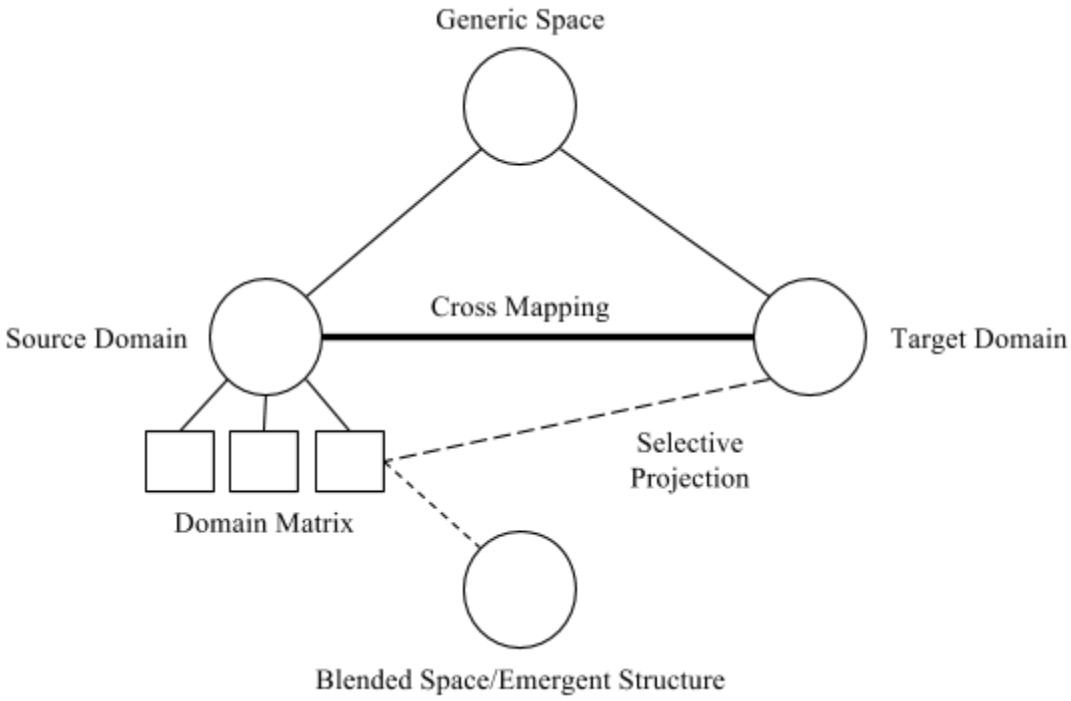


Figure 6.1.2.2.2. This diagram exemplifies the existing bidirectional relation of mutual selection between sources and targets in metaphors of partonymic nature.

On the other hand, it can be seen that the participation of the target in constructions of metaphors with basic-schematic, image-schematic, unified-schematic and cultural-schematic nature is much more subtle, and that the target elaborates on the emergent structure as it cannot select something from the source's domain matrix directly. This type of elaboration is more similar to the classic model for integration proposed by Fauconnier and Turner with a few insights into the role of the target concept. Hence, this Integration Network consists the two input spaces, and in many case the source provides an intrinsic emergent structure that it carries, due to embodiment, image schemas, lexicalisation, or cultural influence. From this emergent structure stems a final elaborated emergent structure, in which the target's specificity instantiates different aspects of that same emergent structure.

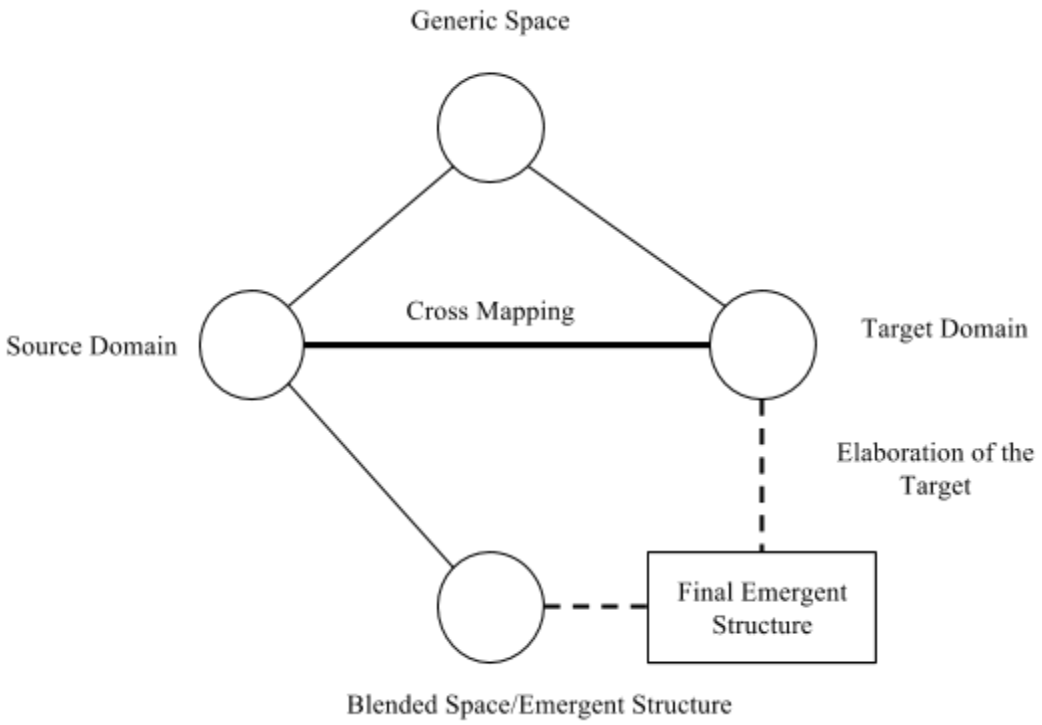


Figure 6.1.2.2.3. This diagram exemplifies the process of structure emergence and elaboration that the target introduces into the integration, leading to the final emergent structure. This is typical of metaphors with basic schema, image-schema, unified-schema and cultural schematicity.

This section presented the schematising potential of the source over the target, and the target's potential to construe the source's domain matrix. One important finding is that the target does not only construe a domain matrix, but it also elaborates on the final emergent structure for some metaphors with a specific level of schematicity (basic schema, image-schematic, unified schema and cultural schematicity). Thus, it can be seen that the level of schematicity is related to the bidirectional interplay of sources and targets. In the following section the featural aspects of sources and targets will be looked at closer in order to explore how they constrain the feasibility of elaboration.

6.2. Featural aspects populating the scale of interaction between source and target

In this section, what will be discussed are the possible elements, aspects, features, characteristics that may condition the kind of response given by the participants. More

specifically, there will be discussed those aspects within the interaction between target and source concepts that evidence a scale effect on the interpretations found on the data. Thus, the analysis will focus on those elements that, on the one hand allow participants to elicit a figurative meaning, and, on the other hand, those elements that may pose a difficulty for an elaboration. It follows then, that the present analysis is based primarily on the numerical values representing the four types of interpretation covered by the study, namely METAPHORICAL, METONYMIC, LITERAL, and NO ANSWER, that were shown by the different pairings of concepts.

6.2.1. Featural aspects that lead to the emergence of figurative interpretation

Based on the results of the study, presenting astonishing results in which some metaphors presented a large quantity of metaphorical as well as metonymic interpretations. It seems evident to argue that there might be some elements that facilitate this kind of interpretations.

As shown by the results, an aspect that seems to play an important role on the emergence of a figurative interpretation for metaphors is the level of lexicalisation of the concepts that stand on a metaphorical relation. Understanding the concept of lexicalisation, expressed in the previous sections (see 6.1.2.2), as the fossilisation of one of the many meanings that a concept can have, this could be reflected on the bulk and concentration of domains. It could be argued that within a metaphorical relation established between two different concept domains, the presence of a highly lexicalised concept translates into a higher possibility of the interpretation to be metaphorical in contrast to other concept domains. Moreover, the position within the metaphor seems to play an important role in the emergence of metaphoricity for these concepts, due to the fact that, as seen on the results, they seem to be rather entrenched as target domains. One concept domain that serves as an example is that of JOKE which showed one of the highest percentage of metaphorical interpretations when acting as a target and paired with all the other domain concepts.

The apparent lexicalised nature of the domain JOKE is evidenced by the range and kind of domains that were sanctioned by it, showing clear tendencies to the sanctioning of the domain *bad quality* and others that show a great semantic similarity such as *stupidity* or *falseness*. It

follows then that any metaphor of the kind *This X is a joke* will probably lead to an interpretation that sanctions *bad quality* as the more salient domain, meaning that *X* in this case fails to meet any characteristics that regard *X* as being a proper member of its category. Taking the metaphor *This dinner is a joke* as an example, it is possible to provide evidence for a correlation between lexicalisation of concepts and a high degree of metaphoricity. In this specific case, which was very similar to all the others in which JOKE was functioning as the source domain, the number of metaphorical interpretations was one of the highest showing a numerical value of 92%. Concerning the domains sanctioned, there was only three domains sanctioned: *bad quality, falseness* and *banality, bad quality* being the domain that was more recurrent with a 76% of incidence. It is possible to appreciate the aspect of lexicalisation having a correlation to the kind of interpretation elicited as in almost all the high number of metaphorical responses, the sanctioned domain was *bad quality*. Given that *bad quality* was the most prominent domain sanctioned, it follows that the majority of metaphorical relations in which JOKE acted as a source spawned an interpretation similar to "la cena está muy mala".

In contrast to a high lexicalised concept increasing the possibility of encountering a metaphorical interpretation, concepts that have not being lexicalised, and as a consequence present a high number of different domains being sanctioned, present a tendency towards the metonymic interpretation. As it was hypothesised, constructions that do not motivate a metaphoric interpretation elicit the use of metonymic leaps in order to enable a construction, presumably due to a greater effort for the mapping. Results suggest that a concept domain that has not been lexicalised, in contrast to a highly lexicalised one like JOKE, would allow a higher possibility of the elaboration of a metonymic interpretation. Similar to the case presented earlier, this high emergence of figurative interpretations occurs primarily when the concept domain is acting as the source, in contrast to the more variable interpretations prompted by metaphors in which the same concept domain was acting as the target. Assuming that the lack of lexicalisation would be reflected on a greater range of domains being sanctioned, its implications can be seen in the case of the concept domain MOVIE which sanctioned a wide range of different domains for the majority of pairing in which it was acting as the source. It is noteworthy that MOVIE elicited a high percentage of metonymic interpretations in those metaphors in which acted as a source, in

most of cases surpassing the 75% of participants' responses. Moreover, metaphors in which MOVIE acts as the target presents more variable numeric values, showing in somes cases a tendency towards the metaphorical interpretations and in other cases towards metonymic interpretations, the only exception being that in which JOKE is acting as source and MOVIE as the target in *This movie is a joke.*

As shown by the results, concepts that present a clear lexicalisation and those that clearly do not are the most likely to elicit interpretations that concentrate either on metaphorical ones for the first case or the metonymic ones in the second case (not lexicalised), in both cases the concepts acting as the source. It follows then that the level of lexicalisation of concepts, for those clearly differentiated concepts populate the areas of the scale of metaphoricity related to figurative meaning. However, this aspect (lexicalisation) does not account for the complete scale that has been theorised (going from conceptual to the impossibility of elaboration), since it does not provide a clear evidence for those concept relations that present more variability in terms of metaphoricity.

6.2.2. Featural aspects that constrain the feasibility of elaboration

As shown by results concerning the kind of elaboration, some metaphorical relations have a higher possibility than others to elicit a non-figurative interpretation, either literal or the impossibility of construal. It may be the case that some aspects pertaining either the target, source or even the relation between them, pose a constraint for the metaphor to be interpreted figuratively. The present section deals with those aspects that limit the possibility of elaboration for a metaphorical construction.

One aspect that might constrain the possibility of a metaphorical or metonymic elaboration is the presence of cultural models, since they may constrain the range of concepts with which they are more likely to have metaphorical interpretations. As shown by the results it may be possible to argue that metaphorical constructions that match up to those cultural models elicit a high number of metaphorical interpretations. It follows that the presence of a concept domain

highly grounded on cultural models will translate into a concept domain that may possibly elicit metaphorical responses when paired with specific concepts.

A representative example that evidences the implication of cultural models in limiting the emergence of metaphoricity or any kind of nonliteral interpretation is the concept *viper*. The latter appears to be highly grounded in cultural models due to the fact that VIPER seems to be highly constrained to a more specific domain of *female*, leading to interpretations that in most of cases in which wife was understood as a 'mean woman'. The latter can be seen in the high percentage of metaphorical responses in those metaphors that have VIPER and WIFE as concepts in contrast to the other metaphors in which the concept of WIFE is not present. On this specific concept domain, the metaphors *This viper is a wife* and *This wife is a viper* present a high percentage of metaphorical elaborations, of 72% and 80% respectively. In contrast, metaphors that do not feature WIFE as being part of a metaphorical relation with VIPER show more variation in terms of the kind of interpretation that was prompted, showing an increase in the possibility of eliciting literal responses or the impossibility of elaboration. The only cases in which this tendency does not appear are those in which either JOKE or MOVIE act as sources, which could be explained by their high percentage of figurative interpretations when acting as source domains. It is important to point out the fact that in this particular case, unlike JOKE and MOVIE, VIPER presents a high possibility of metaphorical interpretation acting as a source as well as acting as a target, although being limited to two instances, those in which it is paired with WIFE. It is pertinent to point out the fact that although VIPER prompts high percentages of figurative interpretations with only one specific concept (WIFE) this does not mean that metaphorical or metonymic interpretation is impossible when being paired with a different concept, in those cases the variability of types of responses will be greater.

The metaphor *This viper is a dinner* serves as an example to show how cultural models constrain the feasibility of figurative interpretations. The peculiarity of this case is given by the fact that although it may seem to be a concept domain that would elicit more literal interpretations, the results show the opposite. As a matter of fact it did not present any literal interpretations in which an animal, in this case a viper, was understood as literally the food that is being served (DINNER) and instead it presented a relatively high number of no elaboration (NO

ANSWER). This suggests that for conceptual items that are highly grounded in cultural models are more likely to prompt the impossibility of elaboration rather than a literal interpretation, even though it seems the interpretations would favour literal answers as VIPER, being a concept that pertains to a more general domain of *animals* and assuming that animals can be eaten for instance as DINNER.

Lastly, it is important to highlight the fact that there was not found an aspect that clearly shows a direct incidence in the type of integration. The aspects discussed here account for particular instances in which one kind of interpretation was the more prominent. However, it does not account for the high variability of kinds of integration presented on the results.

6.3. Entrenchment as a defining role of concepts

As it was previously said in section 3.1, the notion of entrenchment was re-defined as a matter of convergence and divergence of interpretations of a given expression. Then, entrenchment is not considered as an automatic consequence of conventionality but actually as a repeatable motivated function that ultimately may lead to conventionality. Concerning this, the results obtained in the quantitative analysis demonstrate that certain sources presented patterns of convergence that stand out among the others. These instances are specifically JOKE, THORN, and TRAP. Moreover, these concepts were the ones with the lowest values of difficulty. It is worth to notice that these cases were also regarded as being the most schematic sources in the first section of the analysis. That being so, then, a possible connection between levels of schematicity, entrenchment and easiness of integration can be drawn. In contrast, the results also showed that there are sources that presented more divergent interpretations, instances of which are DINNER and WEDDING. These sources in particular demonstrate that, apparently, there is also a correlation between low rates of concentration and the lack of entrenchment. In order to see in detail these concerns, this analysis will study how entrenchment behaves considering the indicators of concentration, degree of difficulty and type of integration.

6.3.1. Entrenchment and the concentration of interpretations

The results summarised in the quantitative analysis showed that the source concepts JOKE, THORN and TRAP presented the highest values of concentration of interpretations among all the other concepts. This means that particularly these three concepts sanctioned a reduced number of domains that converged within the answers. As it was previously mentioned, these source concepts proved to be highly schematic as well. Probably, their level of schematicity does not only make them suitable concepts to be sources within the conceptual system, but also concepts that are more likely to be used frequently in ordinary language and therefore, to become conceptually entrenched. It is not surprising then that the metaphors that presented the higher values of concentration with the lower degrees of difficulties are the ones that have these concepts operating as source concepts (e.g *This memory is a thorn*, *This dinner is a joke* and *This dinner is a trap*). Then, the concentration of interpretations can be considered as an evidence of both the level of schematicity of a source concept and its level of entrenchment. Another result worth noticing is that when JOKE and TRAP functioned as target concepts, they presented the lowest average values of concentration. For instance, while *This joke is a memory* presented a value of convergence of 1.311 and *This trap is a viper* presented a value of 2.415, *This memory is a joke* presented a value of 3.869 and *This viper is a trap* a value of 3.719. Seemingly, in these cases, the schematicity of the concepts defined them as suitable sources but not as 'appropriate' targets, and this is also reflected in the levels of concentrations of interpretations. Another instance that is worth to notice is the metaphor *This wife is a viper*, as it proved to have one of the highest levels of concentration (5.958) and lowest levels of difficulty (1.52) which would account for a high level of entrenchment. Nonetheless, in another instance, *This dinner is a viper* specifically, this source presented a considerable lower concentration value (0.814) and a higher difficulty degree (3.72). This may explain that the case of *This wife is a viper* is not only a matter of the source concept but actually a matter of the conceptual make-up between WIFE and VIPER. Here, the entrenchment features the whole expression and is not solely a property of VIPER. Probably, as it was said in section 6.1, what triggered the high concentration in this metaphor was the conceptual relation between WIFE and VIPER, specifically. Seemingly, culturally there is

a strong relation between women and vipers. Although it seems reasonable to assume that there is indeed a correlation between the levels of concentration and consequently, the levels of entrenchment of certain concepts, there are certain exceptions (as *This wife is a viper*) in which the entrenchment is also a reflection of frequency of use of a whole expression, that may be the result of a cultural conceptual heritage.

Another piece of evidence that supports what was mentioned before are the cases of high divergence found within the results. Regarding the occurrences of high divergence, MOVIE, DINNER and WEDDING were the concepts that sanctioned a greater quantity of domains and therefore presented a lower frequency of convergent interpretations within the domains. Thus, when looking into the average concentration associated to the metaphors least convergent among all the metaphors present in the study, *This symphony is a wedding, This wedding is movie* and *This joke is a movie* presented the lowest values, being 0.550, 0.964 and 0.816, respectively. Besides, these three metaphors in particular presented a considerable high number of sanctioned domains (20, 15 and 15) which also accounts for a lack of frequent interpretations falling in few domains. Keeping in mind that frequency is what defines entrenchment, these sources particularly could not be considered as entrenched as they presented an insufficient convergence of interpretations. Again, this supports the idea that entrenchment can be actually related to high levels of concentration, in other words, once a concept becomes relevant as a means for understanding the world, its employment in ordinary language starts to be frequent and consequently becomes conceptually entrenched. Finally, a high concentration of interpretations falling under few specific domains demonstrates that certain concepts start to be of common access and use, which ultimately may lead to the conventionalisation of these concepts as suitable and appropriate sources within the conceptual system.

6.3.2. Entrenchment and degree of difficulty

Insofar as entrenchment is concerned, the indicator of degree of difficulty is also highly relevant. It is worth to notice that the three sources JOKE, THORN and TRAP, apart from presenting high levels of concentration, were at the same time interpreted with ease. Keeping in mind that

the difficulty degree ranges from 1 to 5, these three cases proved to be the easiest to interpret, with average values of 2.09, 2.40 and 2.37, respectively, when they operated as source concepts. This explains why two of the most easiest metaphors integrated the concepts of JOKE and THORN as sources (e.g *This dinner is a joke* presented a degree of difficulty of 1.60 and *This memory is a thorn* a value of 1.74). Considering these values then, a correlation between entrenchment and easiness of integrations could be drawn. Seemingly, once a source concept has become entrenched due to frequency, there is a quicker access to the concept's content. Hence, the cross-domain mapping between the source and target presents a low amount of difficulty and therefore the conceptual relation is drawn almost spontaneously.

Now, if we see with attention the degrees of difficulties of the cases that showed a major average divergence, it is possible to identify that two of them, DINNER and WEDDING, are positioned as the two most difficult ones to integrate as well. It is not surprising then that two of the most difficult to interpret metaphors have these sources operating (e.g *This viper is a dinner* and *This wife is a dinner*). Taking into account these cases then, again it is proved that certain concepts presented a correlation between the levels of concentration and degree of difficulty. That being so, it can be assumed that the ease of integration is also a reflection of a conceptual entrenchment. As mentioned before, possibly, high levels of schematicity make certain concepts to be more or less suitable to function as sources, a property that, at the same time, prompts for a high frequency of use in ordinary language. Thus, this frequency of use creates access points to the concepts, facilitating the mappings and interpretations of the expressions in which the source concepts are included. Furthermore, the ease of interpretation and the frequency of convergent interpretations may be the factors that ultimately set the concepts to be conventionalised as functional sources.

6.3.3. Entrenchment and the type of integration

Finally, a third indicator that can be related to levels of entrenchment is the type of integrations that took place. The results showed that metonymy presented and average value of concentration higher than metaphor (4.198 and 3.366 respectively). Notwithstanding, it was the metaphorical integration the one considered easier to integrate, with an average of difficulty of

2.77 (compared to 2.90 of metonymy). As it was previously said, higher concentrations should correlate with low degrees of difficulty as well, however, where types of integration are concerned, this seems not to work in the same manner. Metonymic links shown to be slightly more concentrated and difficult than the metaphoric ones, so the correlation appears to be more complex than originally assumed. This is problematic if it is considered that metonymic integrations are bound to be related to a non-entrenched response, or more particularly, related to an interpretation which is not necessarily linked to conventional motivation. Therefore, the concentration of metonymy cannot be immediately related to a conceptual entrenchment of the concepts.

Although the overall view of the averages of the results seems problematic, if the source concepts considered to have high levels of entrenchment (JOKE, THORN, and TRAP) are analysed in depth, it is seen that there is a tendency to integrate them metaphorically. Moreover, as it was explained in section 6.3.1, the metaphors with the higher values of concentration—and also the lower degrees of difficulty—are those that have these concepts as source concepts: *This dinner is a joke, This memory is a thorn* and *This dinner is a trap*, all of them being integrated metaphorically. This aligns with the assumption that metaphoric integrations may reflect levels of entrenchment and at the same time levels of conventionality.

In addition to the high level of schematicity these concepts have (especially JOKE, explained in section 6.1.2.2), which influences the appearance of the same answer repeatedly, it is worth to note that these concepts are concrete concepts in comparison to the target concepts of each metaphor. They belong to the categories of 'communication', 'plants' and 'machines and tools' respectively, according to the 'Common source and Target Domains List' (Kövecses, 2010) whereas the targets belong to the more abstract and cultural categories of 'events and actions' in the case of DINNER, and 'thought' in the case of MEMORY. Thus, the most concentrated and easy constructions present the most frequent and most conventional of the sources, which are, in turn, more concrete than the target. On the contrary, the less divergent metaphors display the opposite pattern (i.e. a more abstract source and a more concrete target). Moreover, the less concentrated targets are JOKE and TRAP that were highly convergent, when in the role of sources. Furthermore, the least convergent metaphor is *This symphony is a wedding*,

in which there is not one concept more concrete than the other but both belong to the type ‘events and actions’. Then, the wider domain matrix of these two concepts as well as their partonomic type of schema, promote the elaboration of their interpretation by means of metonymic type of integration.

Finally, it can be said that there is a relation between the level of entrenchment, difficulty and the type of integration chosen for the conceptual link in each case, however the relation is not entirely predictable or direct. More entrenched concepts or metaphors correspond to the most frequently used, whose conceptual links are more quickly recalled and are therefore considered easy. Most of the times these entrenched metaphors consist of a more concrete source with a discrete set of domains in its domain matrix which allows for the use of metaphorical type of integration. In contrast, in constructions that are not conventional and in which the source target is more abstract, the wider range of domains in the domain matrix of the abstract source promotes a more divergent selection of the domains sanctioned for interpreting the construction. This situation promotes the interpretation and elaboration of the answers via the use of metonymy. Thus, even though there is not an immediate correlation among the indicators, it is evident that some of the sources presented a general tendency to be interpreted in a more or less entrenched manner. There are also specific constructions whose level of entrenchment seems to be mediated by the most frequent type of integration chosen to interpret them and other cultural aspects to be discussed.

6.4. Inversion and directionality

In accord with the classic theories of metaphor, it has been widely accepted that it is necessary to transfer aspects from the source concept to the target concept in order to establish a metaphorical relation. However, in the results it is observed that many metaphorical relations arose, in spite of the change of position of the original concepts of the metaphors and the different combinations made from them. This indicates that directionality is a more dynamic relation than what has been assumed in Lakoff's Conceptual Theory of Metaphor (Lakoff & Johnson 1890, 2003) that conceive the source concepts as a fix starting point from which the

metaphorical relation is builded (see section 2.5), and that definitely the concepts themselves have a more active role in the construction of meaning than in principle assumed.

Then, in this section what will be analysed are the main concerns related with inversion and the changes that were observed in terms of the type of integration used for the generation of meaning among the different metaphors that arose from the inversion of concepts. Also, there will be presented major issues concerning the variation presented in Difficulty indicators in relation with the inversion of the metaphors. Finally, there will be revised the main changes generated in the domain matrix of the concepts by the inversion of the roles of the concepts (source and target) and how this led to different combinations of the sanctioned domains of the concepts.

6.4.1. Inversion and the type of integration

In general terms, it is observed that from the original set of metaphors all of them were integrated mainly metaphorically, followed by metonymic integration with the only exception of *This Symphony is a Joke* that was interpreted only metaphorically (94%) and literally (4%). Also, there were interpreted metaphorically some inverted versions of the original set of metaphors as *This joke is a symphony* and *This viper is a wife*. In contrast, in the case of the direct inversions of the original set of metaphors, these were interpreted mainly metonymically followed by metaphorical interpretations, with the exception of *This wedding is a movie* that was never interpreted metaphorically but metonymically (88%), literally (8%) and with NO ANSWER (4%).

This tendency of interpreting the inverted metaphors metonymically, indicates that the novel constructions are taken as new constructions completely different from the original metaphors. Moreover, even though the possibility of re-inverting the concepts for going back to the more conventional use of the concepts presented, the subjects preferred to elaborate meaning from the inverted, non-conventional order presented. Thus, the use of metonymic constructions increases when interpreting less conventional or nonconventional mappings between two concepts.

This, reinforces the idea that the level of entrenchment of the metaphor is determined by the frequency of use of certain concepts in the same metaphorical construction with the same directionality. Then, as seen in section 6.3, the frequency of use finally determines the level of conventionality that a construction has. For example, the high frequency of use of the construction of LOVE understood in terms of JOURNEY (Lakoff & Johnson, 1980), makes this structure highly conventional. Then, this structure is more likely to be interpreted metonymically whereas constructions with JOURNEY understood in terms of LOVE will be more likely to be interpreted metonymically.

Also, it is noteworthy that the subjects always tried to make a relation between the concepts presented independently of the position, with NO ANSWER being the least frequent response. This means that independently of the assumption that the source concept is more concrete than the target concept, inverting these concepts was not an impediment for generating meaning as well as some metaphorical answers. This indicates that among the elements that lead the construction of meaning, the concept's characteristics and the possibilities offered from its domain matrix for the elaboration of the response, are very important.

In this light, it can be seen how the relation between the concepts as MEMORY and THORN is interpreted metaphorically when MEMORY is in the target position but is interpreted metonymically when this concept is in the source position. In this example, MEMORY corresponds to the category of 'Thought' according to Kövecses' 'Common source and Target Domains List' **(**Kövecses, 2010**)** and THORN is in the category of 'plants'. Then, in the metaphor *This memory is a thorn* indeed the source concept is more concrete, categorising over the target. This allows for obtaining a relationship of equality that presents the target MEMORY as a more graspable concept looked through the more concrete/embodied attribute of *causing pain* provided by THORN. This process of categorisation over the target give rise to answers like *"el recuerdo causa tanto dolor como una espina clava en la piel"* or *"un recuerdo doloroso"* in which *causing pain* is clearly an attribute transmitted to the target.

However, when THORN is in the target position in *this thorn is a memory* the answers obtained are like *"Quizás recuerdo haberme clavado una espina antes", "El dolor es un recordatorio punzante" or "un problema antiguo"*. In this case there was no categorisation of

MEMORY over THORN but the elaboration of the concept in relation to the notion of *remembrance*, adding the notion of *time* ("problema antiguo", "...recuerdo...antes"), and mixing up attributes of both concepts ("recordatorio punzante"). In this case, the 'abstract to concrete directionality favours the use of metonymy for interpreting the relation, amplifying rather than constraining -as in the metaphorical relations- the range of attributes of the concepts, as shown in the following schema:

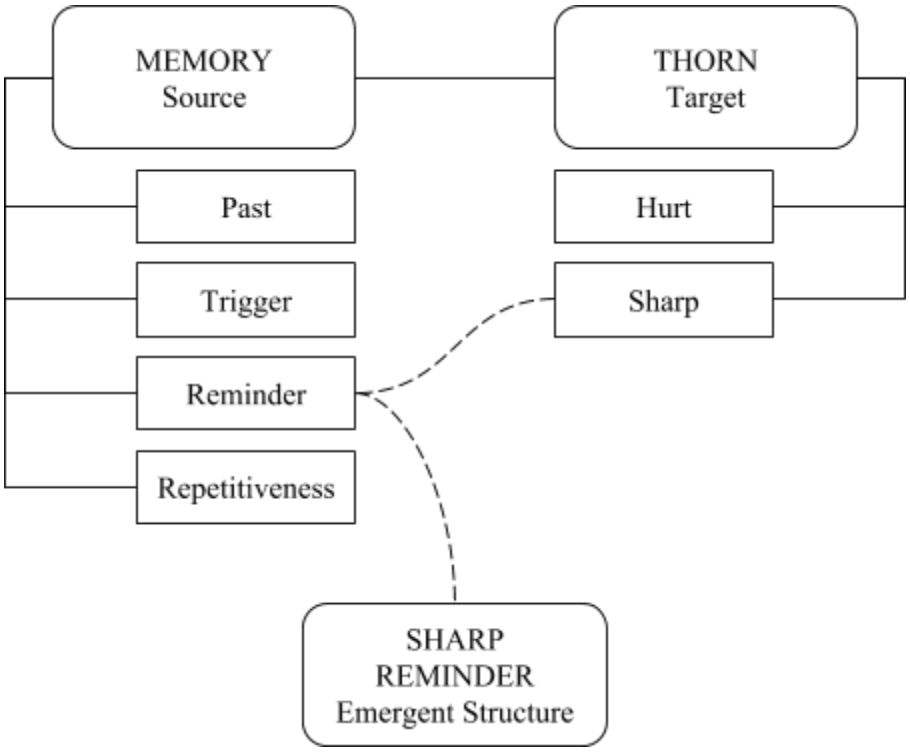


Figure 6.4.1. The figure shows the metonymic elaboration of the source MEMORY activated by the interplay of the domain *sharp* from the target domain matrix selecting over *reminder* in the source domain matrix. The domain in bold *hurt* in the domain matrix was the most sanctioned with the domain THORN as source concept whereas as target a more peripheral domain from the domain matrix is chosen, due to the wider range of domains provided by the abstract source MEMORY.

The interplay of the two concepts, generates the elaboration of *reminder* that becomes a *sharp reminder* in the emergent structure reflected in the answer *"el dolor es un recordatorio punzante"*. This elaboration is possible due to the inversion of the concepts in which the source concept is more abstract than the target concept. Then, the elaboration is not that restricted as in the metaphorical integration because there are more domain possibilities in the domain matrix of the source, that can be used as starting point for the meaning construction. This wide scope of the

source, offers to the target a more active role in the relation as well as the possibility of elaborating the concepts by metonymic integration.

6.4.2. Inversion and the degree of difficulty

When analysing the inversion process and its influence over the level of difficulty of the integrations expressed by the subjects, the most important observation is that the same concepts can be considered easier or difficult, depending on the position they have in the construction. An example of this is the case of THORN and TRAP that are considered among the easiest sources but have being designated as the most difficult concepts when taking the target position. Then, metaphors with the structure *x is a thorn* and *x is a trap* are considered easier and, on the contrary, metaphors with the structure *This thorn is a x* or *This trap is a x* are considered as more difficult to interpret. Also, a remarkable situation occurs with the metaphor *This wife is a viper* that in spite of not being formed by any concept considered among the easiest, obtained the lowest difficulty value and the highest concentration value. However, this particular situation seems to be derived from the strong cultural schematicity of the source viper, as revised in section see section 6.1.2.2. This suggest that the position of the concepts not only determine the type of integration used for relating the concepts but that the characteristics of the concepts in relation to their position in the metaphor determine whether it is easier or more difficult to integrate them to any other concept.

As revised in the previous section, In the case of THORN in the source position (*This memory is a thorn*), the metaphorical integration was made from the concrete source concept to a most abstract target concept. The target was sanctioned by means of *causing pain*. This means that an attribute was transferred from the source and 'absorbed' completely by the target that does not have any schema that can be complemented or contraposed to that of the source (as is more abstract). This is expressed numerically by the higher concentration rate that this metaphorical construction had (9.220). this indicates that the same domain (*Hurt*) was constantly and consistently selected from the domain matrix of the source for building up the relation. Also, this metaphor was considered among the easier relations to build up, after *This wife is a viper*

and *This dinner is a joke* that were easier because of the type of schematicity of the source (see section 6.1.2.2).

Then, from the previous observations it can be established that the difficulty value of a construction reflects the concentration rate of the domains sanctioned (or frequency of use of the same sanctioned domain). i.e., the higher the concentration or the frequency of use of certain domain, the lower the difficulty perception the subjects had of the construction. This means that, the more frequent (and subsequently conventional) a construction, will be mapped faster by sanctioning always the same domain from the domain matrix of the concepts as in *This memory is a thorn*, where a large majority of the subjects sanctioned the domain *hurt* for building the interpretation. Then, the high level of conventionality and promptness of the construction, facilitates the integration of the metaphor, being conceived as easy to build by the subjects.

Along the same line, when MEMORY is the source reference, it is considered as more difficult to make the relation as it does not provide a schematic base that serves as a template for directing the interpretation. In fact, it is an abstract concept that presents a wider range of possibilities from which can be builded up different associations than with THORN as source (see figure 6.4.1). This is reflected in the more complex answers obtained when using MEMORY as source, as for example: "*Un recuerdo que molesta al ser enviado en la memoria*". In this answer, the sanctioned domain from the source MEMORY is *trigger*. This sanctioned domain mixes with the attribute of *unpleasantness* of the target that is elaborated metonymically from the characteristics of THORN.

As a result, the conceptual domain of MEMORY is expanded by blending it metonymically with a less conventional attribute of the concept THORN. This metonymic elaboration from the more frequent sanction domain *hurt* to *annoying,* promotes the perception of the meaning construction as more difficult. This is because the integration is less immediate and frequent compared with when it is sanctioned *hurt* directly in *This memory is a thorn.*

6.4.3. Inversion and its effects on the domain matrix

As shown in the previous sections, the inversion of the concepts together with the concreteness or abstractness of the source generates variation in relation to the type of integration

used for the interpretation of metaphors as well as the perception of difficulty of them. In this section, it will be exposed the effects that the inversion of the metaphors has in domain matrix of the source and target concepts.

In this regard, it was observed that in a metaphorical construction, the sanctioned domains of the source (more concrete) categorise over more abstract domains disponible in the domain matrix of the target. Also, it was observed that when the concepts were inversed the more abstract source provided more divergent options for establishing the relation, contributing to the expansion and elaboration of the interpretations by using metonymic integrations. Thus, the inversion of the concepts generated and impact in the selection of the domains from the domain matrix of the concepts involved in the metaphorical relation. Moreover, the inversion of the concepts promotes the possibility of reverse transfer. i.e., the selection of the target over the domain matrix of the source, and the bidirectional construction of the interpretation, as opposed to the selection of the source over the target directionality of the integration typically argued in the classic models for explaining metaphor.

This phenomena was specially observed when abstract concepts are in the source position as their wider supply of domains in the domain matrix allows the attraction and selection of the target of the domain from the domain matrix of the source that better couple with it, as what happens with *This movie is a dinner* in which the target lead the integration. The answer analysed is "*Una cena dramática":*

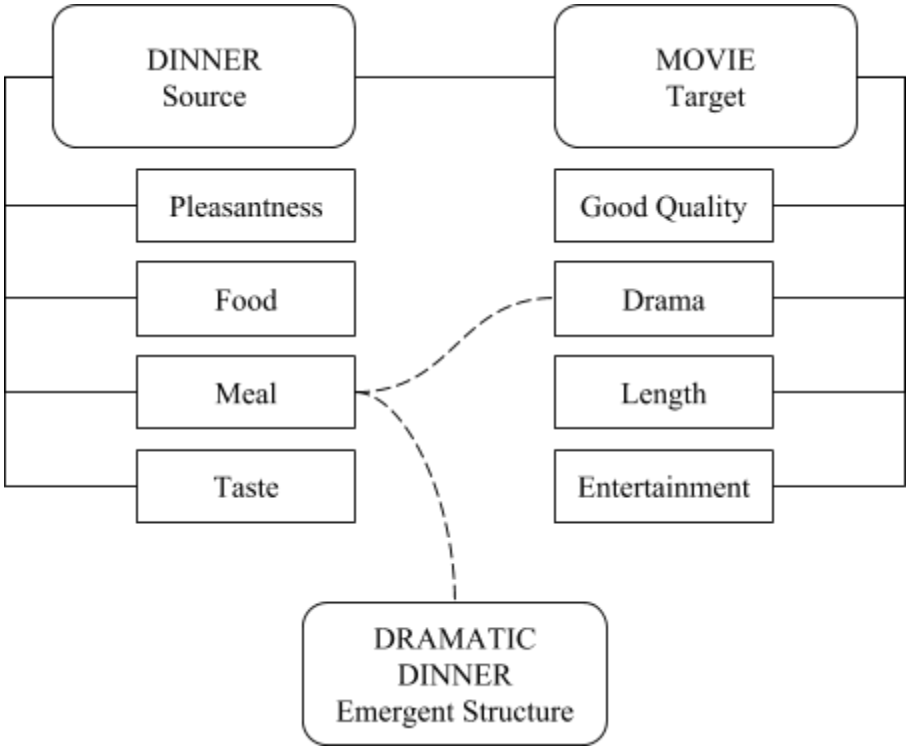


Figure 6.4.3. The figure shows the reverse transfer from the target MOVIE to the source DINNER.

In this elaboration based in reverse transfer, the domain *drama* from the domain matrix of the target selects over the domain *meal* from the domain matrix of the source. As a result, the source concept DINNER is metonymically expanded, being conceived by the DRAMA attribute of the target as a DRAMATIC DINNER. The reverse transfer is possible because of the wide range of concepts of the domain matrix of DINNER and MOVIE that prompt metonymic elaboration of the concepts and a more flexible interplay between them.

6.5. The role of metaphor and metonymy in meaning construction

The results showed that only some of the theorised relations were reflected in the interpretations given by the participants. Concentration is not evidently related to the type of integration, and the implications are analysed here, as well as those for cases where the correlations did not occur. This is the particular case of metonymic and metaphoric interpretations in relation to other factors of analysis, such as the reported difficulty of answers.

The following is a dissection of the results and possible causes for the absence of these relations, or the reasons why they could not be observed with the designed methodology.

It is important to take into account, however, that one major question surrounding the role of entrenchment can immediately be answered via a superficial analysis of the results: whether the roles of source and target concepts are predetermined or not by the level of entrenchment of the metaphor as a whole. What can be drawn from the results is that entrenched metaphors such as *This wife is a viper* feature high levels of concentration (5.958) and low levels of difficulty (1.52, the lowest of all constructions), which is to be expected and consistent with the theory. Despite this, the same source concept used in other metaphors, such as *This dinner is a viper*, features surprisingly low concentrations (in this case, 0.814) and very high difficulty indicators (3.72). While this phenomenon could initially be attributed to the entrenchment of the original metaphors, the situation appears to be far more complex when taking into account the interplay between source and target concepts.

In the first example, it seems evident that cultural models are somehow affecting the interpretation of *This wife is a viper*, making both concepts share a generic space that is either wider in terms of scope, more frequent in everyday language for the participants, or more accessible to their memory because of any or both of the previous factors. These factors might have to do with a number of conceptual, cultural, social or even religious preconceptions which have been generally accepted more into the conceptual structure of the participants. This is not to say that the concept is necessarily shared literally by them (which would suggest a form of sexism in which the metaphor agrees with their notion of the female gender), although it might be. It rather suggests, in purely conceptual terms, that the metaphoric elaboration between source VIPER and target WIFE has been heard more frequently, and therefore counts with more instances of representation in the memory of the participant, which makes it more accessible in quick tasks such as this. In summary, the perceived effect of entrenchment is explained much more specifically by the particular interaction between input spaces, which is determined by their individual and relative semantic characteristics.

6.5.1. Correlation with Concentration

The results show a definite correlation between concentration and type of integration. However, the scale in which these two aspects are related developed, in most cases, in a different fashion from the one predicted. It had been theorised that metaphoric interpretations, being more naturally entrenched integrations, would necessarily be connected to more concentrated responses. That is, when participants gave metaphoric answers, it was expected that these answers were more frequent, and therefore converging more towards one or two sanctioned domains for the interpretation.

A lack of "scatter" was supposed to be consistent with the idea that more metaphoric integrations were less subjected to particular instances of interpretation, which should have been the case of metonymic interpretations, and much more fixed by previous conceptual knowledge and entrenchment. However, the results show an almost identical relation between the two variants. Both on overall average and in most of the specific metaphoric constructions, it is metonymy which features the highest levels of concentration towards unique sanctioned domains. However, the difference between the two is almost inexistent (3.503 vs. 3.366), and metonymic interpretations tended to showcase an only slightly higher concentration, which in turn relates to a marginally smaller total of domains for each metaphoric combination of source and target concepts. One clear example of this is the case of the source domain VIPER, which features a concentration of 4.986 for metaphoric integrations and 5.315 for metonymic construals. A cross-check confirms that for this source there are 24 different sanctioned domains for metaphoric answers, and 22 domains for metonymic ones.

Some previously unexplored explanations for this phenomenon may be the fact that metaphoric integrations are not always entrenched, and in fact tend to be marginally more disperse than metonymic links in terms of frequency. This might be, in most of the cases, a product of the appearance of emergent structures, which are only possible in metaphoric blendings, a possibility that is not achieved via metonymic leaps. One clear example of this is the source domain MOVIE, which featured an index of concentration of only 0.527 for metaphoric

interpretations. It might be the case that metaphors like *This joke is a movie* or *This wedding is a movie*, both of which show a dispersion among 15 different sanctioned domains and almost no metaphoric integrations are mere exceptions to the more frequent case where metaphoric interpretations are the norm, but their concentration is very low. These particular cases might respond to more culturally predetermined conceptualisations of sources and targets in relation to one another, and that might be more semantically related to the nature of the domains rather than any one specific form of construal being possible instead of others.

Consider, for example, the case of *This movie is a dinner*. With an overall concentration of 1.543 and 14 different sanctioned domains, the most frequent interpretation (28%) was that of a *good quality* dinner. Note here that the DINNER being the source does not prompt for metaphoric constructions where this domain remains as the source, but rather it is re-interpreted more easily as it being the target, leaving MOVIE as the source domain. Interestingly, however, this construction features no metaphoric interpretations whatsoever (96% METONYMIC, 4% NO ANSWER). This contrasts with the case of *This viper is a dinner*, where the same source concept is used, but the interpretations now features a 20% metaphoric type of integration (64% METONYMIC, 16% NO ANSWER). Even considering that a few more participants chose to leave this blank, it is still noteworthy that this construction, as well as many others of its kind (see Appendix A), behaved unexpectedly: Literal interpretations would have been assumed to be the most frequent choice (since vipers are, quite literally, edible), and yet the same sanctioned domain, *edibility*, was signaled through mostly metaphoric and metonymic constructions, thus following the pattern common to all source concepts.

In general, however, it would seem that the metaphoric option of integration opens up more possibilities of unique mappings between source and target domains due to its internal mechanism of requiring an emergent structure to be elaborated with the concepts of both input domains, but without limiting either the inventory nor the structural complexity of this original domain. As with the case of metaphor, it was found that metonymy behaved different to what was originally expected.

It was claimed before that metonymic interpretations would present a low index of concentration as they were mostly related to non-entrenched responses. This would imply that interpretations would finally converge towards many sanctioned domains. In other words, lack of entrenched integrations would allow a flexibility in terms of answers and therefore, indicators concerning concentration would remain low. However, as mentioned before, results indicated the opposite, that metonymy appeared to feature a slightly higher concentration. This can be quantitatively translated into the sanctioning of a small number of domains for some of the metaphoric combinations. An example that may illustrate this phenomenon is what was found in the concentration by type of integration for the source TRAP, which featured a concentration of 6.910 for metaphor, and 6.856 for metonymy. This means that metonymic responses were as convergent as metaphoric responses. Bearing in mind this high index of concentration, it is necessary to explore where this level of concentration actually came from. In metaphors like *This thorn is a trap, This symphony is a trap* and *This wife is a trap,* the use of metonymy was abundant (76%, 76% and 68% respectively). But, what is important to notice from these indexes, is that for these three cases, metonymic responses were concentrated only in one specific sanctioned domain which was *deceit*. This would explain why the source TRAP presented high levels of concentration for metonymy. And the reasons behind this convergence have to be found by exploring not only the schematic nature of the source but at the same time, what aspects of the source selected by the target allowed a metonymic integration instead of a metaphoric integration.

A possible explanation for this scenario would be that, even though metonymy offers a more flexible capacity for reaching different interpretations, it seems that there are actually some limitations that constrain the possible number of interpretations. These limitations may have to do with the extent to which the schematic nature of both source and target and the participant's conceptualisations of both concepts affect the final integration. As most of the participants conceptualised TRAP as a deceitful entity, few types of responses appeared to be more frequent than others. Then, metonymic integration may not behave as flexible as it seems and participants' attempts for interpreting metaphors may result in the sanctioning of common responses. This occurred even in cases where the most used type of integration was metaphor,

such as in *This movie is a trap* with an 88% of metaphoric responses. Also, as our world knowledge is somehow limited for these culturally predetermined conceptualisations, the number of possible interpretations, either metaphoric or metonymic are indeed limited too. The fact that for this particular case there were more use of metaphor than metonymy has to be definitely related to the extent which the target MOVIE may or not trigger a given type of integration. Certainly, something about the interplay between target and source is responsible for the appearance of one type of integration or the other.

One strong possibility to be considered, then, is that when two concepts are prompted into entering a source-target relation, the reader/listener evokes not one particular relation between two domains, or even a specific type of integration (either known or unknown before), but rather a unifying ICM, or a simple frame in which these two concepts coexist with some semantic link. This 'umbrella' structure, being more complex and encompassing both domains, would then determine which type of integration is most suitable for the specific link. This notion is consistent with the results of the present study.

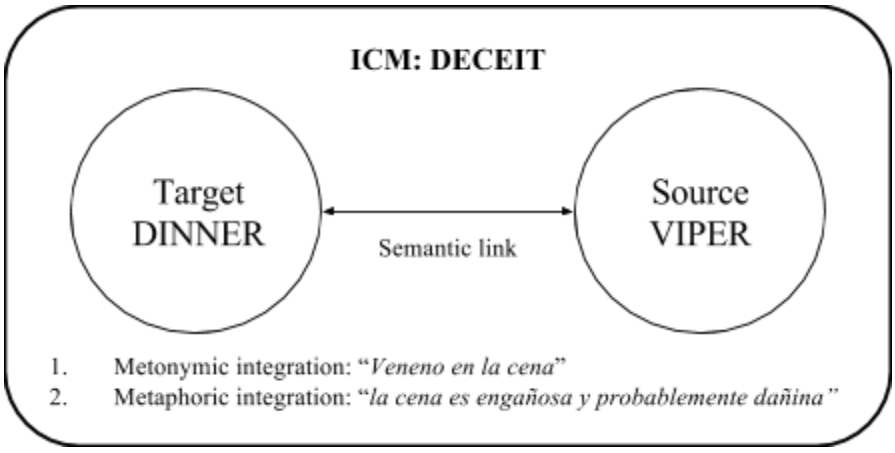


Figure 6.5.1.1. ICM *DECEIT* is evoked when integrating DINNER and VIPER into a source-target relation.

6.5.2. Correlation with Difficulty of Integration

In parallel to the previous phenomenon, there seems to be absolutely no relation between the type of integration and the difficulty of carrying out said interpretations. The numeric difference of reported difficulty between both types is insignificant and, additionally, it is shared mostly with the literal type of interpretation. This is an analytical concern, since it would have seemed intuitive at first to think of difficulty as an obvious variable depending on type of integration.

Nevertheless, different options are still interesting to evaluate in relation to this phenomenon. The first and simplest one is that what is understood in this study as "level of difficulty" is, in fact, a much more complex and abstract concept, a multifactorial system perceived by the participants as a unidimensional scale of "more or less" difficulty simply because they are prompted to express it that way. At the most basic level, difficulty could account for nothing more than the perceived cognitive effort required for each of the 'sub-steps' of the conceptual integration. That is, the overall difficulty of the effort could be nothing more than the specific processing power used for aligning both input spaces, and not for actually carrying out the elaboration of either a metaphoric blend or a metonymic leap. Furthermore, it could very well be the case that the process of alignment is, in itself, a mechanism of the mind which attempts to find any conceptual links regardless of their type. Thus, the integration process would be nothing but an inevitable product of the alignment process. Regrettably, this would only be possible to test in a study of a different nature, by theoretically 'dissecting' the integration and attempting to find mental, or even neural patterns that reflect the ongoing process. What the present investigation can offer, nevertheless, is enough data and the required statistical analysis to contrast this notion against, and the results are, in fact, consistent with this idea.

However, there are several counterexamples for the previously stated view, namely the definitely different reports of difficulty for metaphors such as the impressively different level of average difficulty for sources JOKE (extremely easy) and source DINNER (extremely difficult), and how these indexes are reflected in the individual interpretations for most of the mappings for

these sources. Along the same lines, for the case of strictly metaphoric interpretations (instead of metonymic or literal), the source concepts WEDDING and WIFE are the most difficult to interpret, and most notably both of them in combination, this is in the constructions *This wedding is a wife* (difficulty 3.64), and vice versa, *This wife is a wedding* (difficulty 4.20). It is also noteworthy that both concepts belong to a frame which relates them very closely together, and yet the reported difficulty index is high in both cases. This points to a sort of principle in which two concepts which are too evidently linked together (that is, by a frame which is recalled too quickly) do not prompt for the frame directly, but rather prefer to resort to other, more complex, even if accessible frames or ICMs in order to make the integration. In this case, the ICM of *Wedding Ceremony* appears to be too immediate and is therefore chosen less than the ICM of *Personality*, which allows for metaphoric elaboration.

Figure 6.5.2.1. The ICM *Wedding Ceremony* encompasses both concepts in a very direct, strong relation which is far too evident to elaborate on, metaphorically.

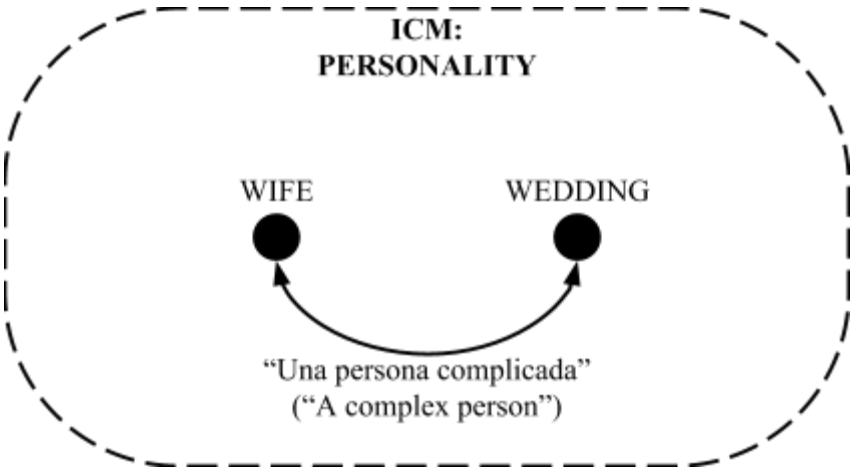


Figure 6.5.2.2. The ICM *Personality* is abstract enough to encompass both concepts, but not immediate enough to inhibit the metaphoric elaboration of the WIFE being understood as a WEDDING, in terms of her complex and pompous personality.

However, there is an upper limit to the level of abstraction of the encompassing ICM or frame, since for some concepts, it is more difficult to find it, and therefore the link becomes less accessible itself. Such is the case of WIFE and SYMPHONY, which elicits far more disperse responses and is deemed to be more difficult as well. Even though metaphoric elaborations or metonymic links are still possible to be found in these cases, statistically, it is far less frequent.

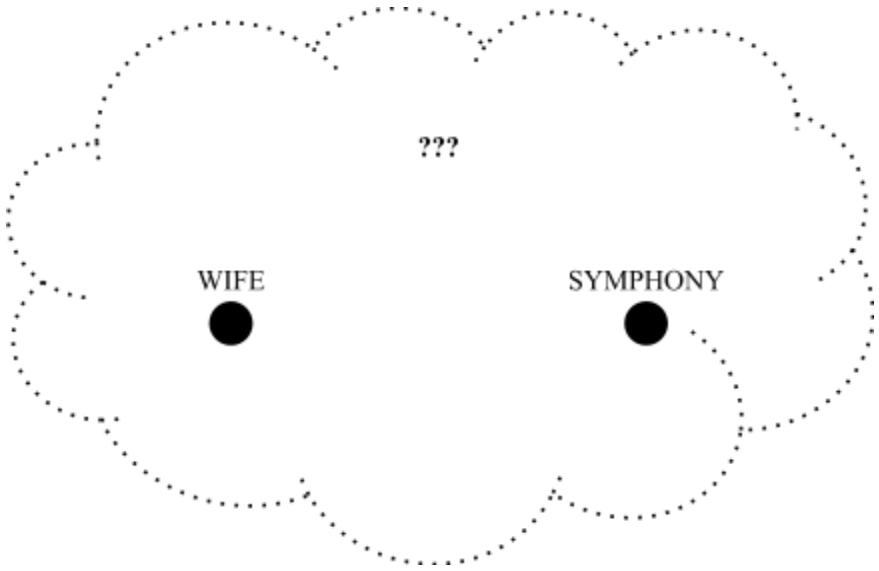


Figure 6.5.2.3. The relation between WIFE and SYMPHONY is embedded in an ICM that is even more abstract and less accessible than the previous one, and so, in many cases, the conceptual link is not even achieved in the first place.

In the case of metonymy, the reported difficulty remained close to the one of metaphors (2.90). This index does not signal for a proper qualitative distinction between both types of integration concerning difficulty. Nevertheless, by looking at how sources behaved, some of them presented levels of difficulty from which some relevant conclusions may be drawn. For instance, source JOKE and source DINNER presented respectively the lowest and highest level of difficulty for metonymic integration (2.10 and 3.56). It is strongly relevant to notice that for both types of integration (metonymy and metaphor), both sources (JOKE and DINNER) acted as the easiest and the most difficult sources, respectively. The fact that both sources behaved similarly for both types of integration may point towards the idea that, possibly, the difficulty of

integrating targets and sources into metaphoric or metonymic interpretations has no direct relation with the type of integration but with a more general ability of achieving a final response either through metonymy, metaphor or literal interpretation. This would depend directly on the evoked ICM or frame which embeds both concepts.

At this point, it is necessary to tackle the question about the role of metonymy in the construction of meaning. The idea that a metonymic integration comes to play as a subordinate mechanism after the inability of elaborating a metaphoric integration can not be explained under this experiment. Moreover, since level of difficulty for both mechanisms (metaphor and metonymy), remained close in most of the cases, results are not enough to suggest when and why metonymy occurs. What is relevant to notice for this question is that, precisely, the almost no distinction between metaphor and metonymy in terms of difficulty points towards the idea that both types of integration seem to appear with a same degree of accessibility. In turn, this would mean that the integration process requires a cognitive effort not to be defined quantitatively, but rather qualitatively. This ultimately may lead one to theorise the following: that whenever a person faces a metaphor during the experiment, a specific interpretation will occur without unconsciously make a distinction between both cognitive mechanisms, in other words, since these metaphors are presented during a short period of time and without any actual context, a person would run for the mechanism that is most temporally accessible for them.

Another point which seems relevant to discuss in relation to the question mentioned above, is the conceptual 'distance' between targets and sources when elaborating an interpretation. Conceptual distance has to do with the extent to which source and target domains may merge within a single ICM. This distance might be measured by observing the schematic size of the ICM evoked from the metaphor. The more schematic the encompassing ICM, the more distance may be said to exist between them. It was originally suggested that whenever the target and the source in a given metaphor presented conceptually distant sanctioned domains, metonymy would appear as way of connecting both domains in order to achieve the integration.

For instance, when looking at the metaphor *This symphony is a wife*, one could observe that, both concepts being relatively distant from each other, the level of difficulty for elaborating

an interpretation resulted high (4.28). However, attending to the frequency of types of integration, it is metaphoric integration which appeared as the most used mechanism for this particular metaphor (64%). Even though responses dispersed themselves into different sanctioned domains, most of these domains appeared to concentrate more metaphoric responses: *dullness, complexity, unpleasantness, good quality and length* (of the WIFE).

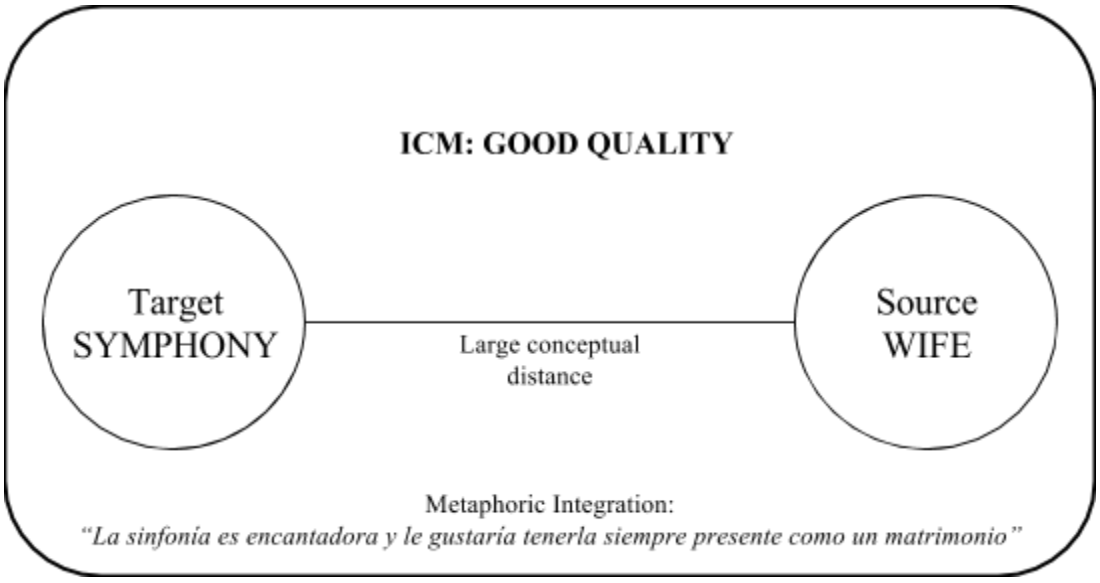


Figure 6.5.2.4. The ICM of *Good quality* encompassing both distant domains, SYMPHONY and WIFE.

Besides the conceptual distance, the actual interplay between the target and the source occurs without any problem. For this case, cultural aspects influencing the conceptualisation of the source WIFE and the schematic nature of the target WIFE, resulted in the emergence of specific sanctioned domains driven from: in the one hand, the schematising potential of the source over the target -which in this case was schematically large to integrate both concepts-, and in the other hand, from the selection of aspects of the source by the target. Applying the reformulated version of Fauconnier's Blending Model used in 6.1.2.2, this interplay would look like the following:

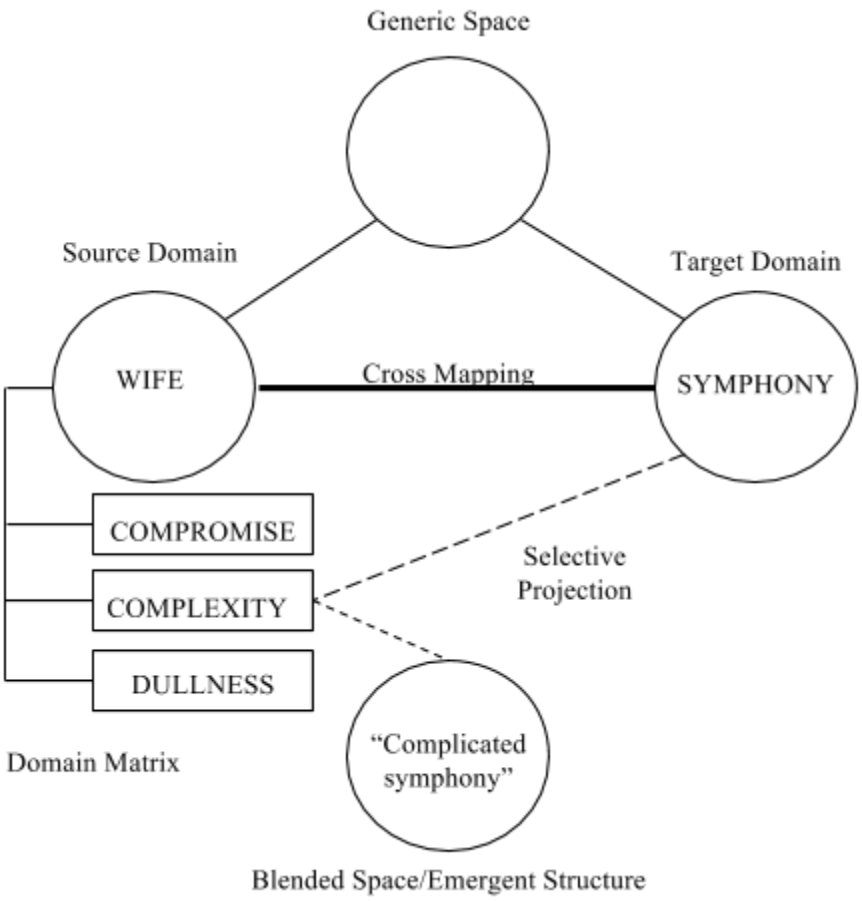


Figure 6.5.2.5. Interplay between target SYMPHONY and Source WIFE.

From the example, it is surprisingly relevant to see that even though the conceptual distance between target and source does affects the level of difficulty perceived by the participants, the use of metonymic integration only featured 12%. This indicates not only that a high level of difficulty is not consistent with the use of a specific type of integration but it also shows that the conceptual distance between the target and the source is not strictly related to the use of metonymy as a mechanism of integration. Moreover, when looking at the example *This wife is a symphony*— the inverse version of the metaphor recently discussed — even though most indices resulted different, conceptual distance between the both domains sanctioned again has few to say about the use of metonymy as the mechanism of integration. In this case, the same source and target being used in the opposite position presented low index of difficulty (2.57) and a high frequency of metaphoric interpretations (88%). These interpretations were distributed in

few sanctioned domains (6) from which domains of *joy*, *beauty* and *good quality* concentrated 60% of the metaphors found. This time, the high level of schematicity of the source SYMPHONY allowed the target WIFE to select very specific domains, even though both sources represents two semantically dissimilar concepts. Thus, it rather seems that despite the difficulty when elaborating an interpretation, the use of a given mechanism of integration is governed by other factors, as theorised above.

Chapter 7
Conclusions

The present study aimed to explore the extent to which the conceptual makeup and behaviour of target and source concepts have an influence on the process of interpretation for different metaphoric constructions. More specifically, this study focused on some aspects of the metaphoric meaning that may ultimately lead to a full understanding of how meaning construction is carried out when facing conceptual and novel metaphors. These aspects, namely, level of schematicity, level of entrenchment, degree of difficulty and type of integration, were proposed as important interrelated defining features that may be revealing of a more dynamic interplay between targets and sources, consisting on the one hand, of sources having a degree of schematising potential over targets and, on the other hand, of targets participating in the selection of specific domains from the source's domain matrix. Then, putting forward the hypothesis that metaphors present a bidirectional interaction between sources and targets, this thesis dived into the concern of to what extent the participants' responses, expressed in terms of quantitative and qualitative results, finally told something meaningful about the relevance of the featural aspects of sources and targets for the bidirectional interplay suggested.

In the light of the results, this inquiry shows that there is a possible correlation between the value of concentration, the low difficulty of integration and the width of scope of a specific concept. Thus, JOKE, THORN and TRAP stand out as the most schematic sources among all the others, presenting the highest values of concentration in few domains and being integrated without difficulty. These three sources in particular proved to have not only a great schematising potential but also a great capacity for encompassing various concepts. Moreover, their width of scope and schematic features facilitated the capability of the target to construe the source domain's matrix. Additionally, the analysis of *This wife is a viper* showed that there are certain cases where high concentration not necessarily represented a great schematising potential of the source. This metaphor in particular proved that certain conceptual relations are not structured in terms of schemas but actually are the results of inherited conceptual connections. Besides, this source presented a high divergence and high degree of difficulty, which indicated that its

schematising potential was very limited. Even though this metaphor was particularly divergent, it is worth to notice that even with this complication people were able to sanction domains according to the salient aspects of the concepts and to came up with interpretations that at times converge. This demonstrates that in term of interpretations there is always the possibility for a construal, and also that in a conceptual relation there is an interplay between the target potential for construing the source domain's matrix and the schematising potential of the source. Therefore, the target is capable of evoking distinct domains depending on the schematic properties of the source concept, thus, with a bidirectional interaction taking place between the source's domain and the target's domain.

Another important finding, in relation to the process of integration and meaning construction, is that there is indeed a bidirectional process of mutual selection between sources and targets. In the classic Conceptual Metaphor theory, it has been the source that has been assumed to have mapped elements onto the target concept, showing a unidirectionality of the process of metaphor construction. However, it was proven that the mapping is not unidirectional as the target concept has an active role as well. The target concept can be involved in two different types of elaboration, which are constrained by the level of schematicity that the source concepts possess. Thus, it can be said that the sanctioning potential of the target largely depends on the construal potential of the source, and the source's potential, as was previously said, is given by its level of schematicity.

It was consequently then shown that the interpretation of metaphors with different level of schematicity obeys to different integration processes. In relation to partonomic domains participating in the metaphors, the target concept has a direct access to the source's domain matrix, allowing the selection of a specific element that is going to be mapped onto the emergent structure. Thus, the target leads the source in the process of projection as it selects the most suitable element for the target domain. This has been similarly suggested by the study of Barnden et al (2002), and it was also seen that this process of elaboration greatly differs from the model of Integration Networks by Fauconnier and Turner (1998). This is because the proposed type of integration for partonomic metaphors evidences the role the target concept has at the moment of the mapping.

The other type of elaboration features a rather subtle participation of the target in the mapping, as it elaborates on the emergent structure provided by the source. This is the case for metaphors with basic, imagistic, unified and cultural schematicity. It was seen that these levels of schematicity tended to trigger one interpretation that was more convergent than others, as interpretations of these metaphors can be either embodied, imagistic, lexicalised or culturally entrenched. Thus, the interpretation of the source is already constrained by the schematicity, resulting in a specific meaning that will be mapped onto a target, and this meaning will be the same as the emergent structure, as it is the case of *bad quality* for the source JOKE. In this type of elaboration, the target concept does not have the chance to select from the source's domain matrix, as only one element associated to the source is directly projected onto the emergent structure. It is for this reason that the target will elaborate on the emergent structure, adding specificity to the interpretation and leading to a brand new emergent structure that suits the target domain. Again, these findings show that there is a bidirectional interplay in the mapping, and account for the role of the target in such mapping. Thus, these results exemplify that the target concept is not passive and that the final interpretation of a metaphor has much to do with the specificity the target adds to it. Furthermore, this proves that the integration process is much more complex and, besides the selection, the projection, the elaboration and the emergence, it may possibly involve some other steps for the metaphoric integration.

Considering the importance of the interplay between target and source concepts in the emergence of metaphoricity, the findings suggest that some featural aspects have a greater influence on how this interplay leads to the different kinds of interpretation. The analysis of the results shows that there are two main aspects that intervene in the emergence of metaphoricity, namely the level of lexicalisation of concepts and cultural models. These aspects seem to populate some specific areas of the scale of metaphoricity theorised that ranges from metaphorical interpretations to the impossibility of elaboration. On the one hand, the lexicalisation of a concept that takes part in a conceptual relation implies a higher possibility for a metaphorical interpretation. Following the idea of lexicalisation and its implications, metaphorical relations featuring concepts that have not been lexicalised are likely to present a higher possibility of construal. On the other hand, cultural models appear to constrain the

emergence of metaphoricity for certain concepts, reducing the possibility of metaphorical integration of concept relations that are not culturally motivated. It follows that metaphorical relations that feature concepts that are highly grounded on cultural models are more likely to allow metaphorical interpretations. On the contrary, metaphorical relations that are not culturally motivated are likely to present more variability in terms of type of interpretation, showing in some cases an increase in the impossibility of elaboration that leads to a lack of answer.

In addition to this, through the analysis, it was possible to see that the notion of entrenchment was reflected in a correlation between high levels of concentration and ease of integration. Thus, the three most concentrated concepts JOKE, THORN and TRAP were considered as highly entrenched as they presented not only a high convergence of interpretation falling under few domains but also low values of difficulty. Opposed to this, the results evidence that there are sources such as DINNER and WEDDING that presented more divergent interpretations and also high degrees of difficulty. There, again, the correlation between concentration and degree of integration accounts for a correspondence between levels of entrenchment and levels of concentration of interpretations. In that sense, a high value of divergence may respond to an insufficient frequency of equally or similarly conceptualised entities. For that reason, this reflected indeed a lack of entrenchment as those two sources seemed to be integrated with high difficulty presenting a greater variability in the given responses. Another interesting finding was that the highest concentrated concepts, and therefore entrenched, were also regarded as being highly schematic. Taking into account this, then, a possible connection between levels of schematicity, entrenchment and easiness of integration can be drawn as well. Apparently, high levels of schematicity make certain source concepts be more suitable to operate as such, this consequently prompts for a high frequency of use in ordinary language which is reflected in the convergence of interpretations. Besides, the ease of interpretation and the frequency of convergent interpretations may be factors that ultimately determine concepts to be conventionalised as functional sources.

Additionally, the relation between entrenchment as a notion depending on the type of integration could not be confirmed by the general results. Although the relation itself may exists, the dependency is not direct. This was observed for most of the constructions with sources used

often—and therefore considered entrenched in terms of their frequency—in which concentration values were also high, rendering the interpretations as entrenched in terms of similar sanctioned domains. Metaphoric integrations were far more frequent in these cases, but they did not inhibit the appearance of some metonymic relations with similar levels of concentration. The opposite was true for less conventional metaphors, however the correlation between type of integration and concentration remained unclear. It can be drawn, from these phenomena, that the level of entrenchment of most metaphors is highly determined by the source domain and the interplay between target and the source's domain matrix for each particular case.

Another interesting issue is the fact that it has been observed that the inversion of the role of the concepts in the metaphorical relation, generates changes in the type of integration used for the generation of meaning. Two important observations in relation to this are that, first, the majority of the inverted metaphors were interpreted mainly metonymically rather than metaphorically, and the participants always tried to interpret the relations presented. This means that the inverted metaphors were taken as new constructions different from the original metaphors and that the inversion of the concepts by no means signified the impossibility for relating the two concepts and generating significant meaning from them.

Moreover, this means that directionality results to be a more dynamic and flexible relation than what assumed in Lakoff's Conceptual Metaphor Theory (1980), where he argues that the direction of relation between concepts goes from a concrete source concept to a more abstract one. This dynamicity and flexibility of the directionality of the relations is verified as the re-inversion of the concepts to the concrete source to abstract target order did not happen significantly. In these cases, the concrete source tends to become abstract target and vice versa, and the elaboration of meaning was produced without restrictions. Then, when interpreting constructions with sources more abstract than the targets, the use of metonymic elaboration is preferred over the reordering of the concepts into their more conventional and entrenched use.

Furthermore, the inversion of the concepts also produced variation in the DIFFICULTY values reported. It was observed, for example, that some concepts as THORN and TRAP were considered among the easiest ones as sources but as the most difficult as targets. This means that the characteristics of the concepts in relation to their position in the metaphor determine whether

it is easier or more difficult to integrate them to any other concept. Also, it was observed that there is a tight relation between the concentration rate of the domains sanctioned (or frequency of use of the same sanctioned domain) as it was seen that concepts with a high concentration value were perceived as less difficult to integrate and vice versa. This entails that, the more frequent (and subsequently conventional) constructions, are mapped directly by sanctioning always the same domain from the domain matrix of the concepts, thus, requiring a lower cognitive effort for generating the interpretation. So, the direct and fast mapping between concepts in a conventional construction, allows it to be perceived as easy to integrate.

In relation to the inversion of the metaphors and its effect in the domain matrix of the concepts, it was observed that with the concepts inverted, the more abstract sources provided more divergent options in its domain matrix, the elements of which are used as starting points for the interpretations. Moreover, it provides the capacity of the target for selecting elements from the source domain matrix, giving rise to reverse transfer and the bidirectional construction of the interpretations, as in the case of the inverted metaphor *This memory is a thorn* in which the relation is defined by the target selection over the domain matrix of the source and subsequent emergence of the emergent structure of the interpretation.

Additionally, given that the correlation among type of integration, concentration and difficulty is not certain, at least not from what was seen for the metaphoric and metonymic types, a heavier emphasis was placed on the analysis of the possible interplay between source and target concepts. While, on the one hand, the relation between entrenchment and concentration was positive for originally entrenched metaphors, the cases of the same source concepts used in different metaphoric constructions do not show a consistent pattern with respect to concentration or difficulty.

This might be explained by the cultural models that can affect the conceptual interplay between input spaces. These may have a number of complex roots in a speaker's encyclopedic knowledge and are therefore quite difficult to account for in any given metaphoric construction, but in specific cases they are statistically more frequent, such as the relation between WIFE and VIPER.

In general, however, the metaphoric and metonymic types of integration did not show a direct relation with the index of concentration. The amount of sanctioned domains for both types of integration is also quite similar in most cases. In fact, some metaphoric integrations tended to feature slightly higher numbers of sanctioned domains, and therefore slightly lower concentration values as well. This phenomenon might be explained by the metaphoric integration process, in which an emergent structure arises for each particular integration, depending on the generic space built between source and target, and the mapping that is carried out between them. This is not possible with metonymic leaps, and therefore might account for a higher number of sanctioned domains, especially considering that metaphoric integrations do not limit the nature or schematicity of the emergent structures.

Contrary to what was expected, metonymic interpretations were not more divergent. In this case, it would seem that metonymic leaps (unlike metaphoric integrations), do present some kind of limitation to the possible links between input spaces. In fact, the limitations might be precisely the schematic scope of both source and target.

The general conclusion for this phenomenon, then, is that whenever two input spaces enter a source-target relation, what is evoked is not the specific type of integration to link both concepts, but rather an encompassing ICM or frame which determines the conceptual relation of both concepts and thus prompts for a particular type of integration. Additionally, types of integration proved not to be a factor for the perceived difficulty in the relations made by participants. It might be that what this investigation understands by "level of difficulty" is in fact an abstraction over a much more complex set of parallel cognitive processes that demand different types of efforts in the participants' minds.

However, different levels of difficulty for different metaphoric constructions do beg for the question why these differences occur. One proposed explanation for this is that the ICM or frame in which the two input spaces are found to be embedded can allow or inhibit the elaboration of metaphoric links between them. That is, if the ICM or frame abstracted from two concepts is too limiting, the elaboration will not occur, but if it is schematic enough, it provides conceptual 'free space' for the metaphor to be drawn within. Alternatively, if the ICM or frame is too schematic, the elaboration does not find a solid conceptual structure to be elaborated upon.

The previously mentioned phenomena go against the possibility initially theorised that metonymic links only arise as a subordinate alternative to the metaphoric integrations. It is then concluded that both types of integration share a similar level of accessibility in terms of conceptual structure and speed of elaboration.

Finally, some of the most evident limitations of the present study are the definition of the notion of difficulty and the blurry boundaries between metaphor and metonymy. Regarding the first issue, any further research would benefit from taking into consideration the complex cognitive efforts that go into the elaboration of a conceptual link as separate processes to be analysed individually. Additionally, it might prove enriching to consider the difference between metaphors and metonymies as a matter of interest, since this might give some insights into the nature of both types of integration and the structural commonalities between them. Also, it would be very interesting to clarify, perhaps by asking the participants or going through the theory, why the participants always tried to—and succeeded most of the time—in generating meaning from the concepts presented instead of blocking the interpretation. This could bring some light to the matter of how the conceptual make-up of the elements work, and its relation to metaphorical as well as metonymic types of integration. In the same line, it would be very interesting to use the re-inversion of the concepts as an indicator value and revise which elements of the concepts constrain a possible elaboration of the interpretation.

The relevance of the findings of this investigation is that they advance the areas of the field in different manners. First of all, it adds another perspective to the notion of entrenchment as depending mostly on frequency in a person's conceptual structure. A positive aspect of the findings regarding entrenchment, is that they derive directly from the participants' responses, adding an experimental and scientific importance to the issue. Thus, entrenchment was studied beyond mere theorisation and was actually a dynamic phenomenon that evidenced the organisation of the conceptual structure and the creation of meaning. Another relevant aspect of the experimental approach of this study, is that it made possible to analyse the process through which meaning is constructed, as this made possible to observe the role that the target concept has in the elaboration. Therefore, without the large number of interpretations provided by the participants, the two different types of elaboration proposed would have not been discovered.

This study also attempted to contribute to filling the gap that exists in relation to the bidirectional interplay. The role of this process between concepts is regarded as having a central effect in either making entrenchment possible or not because of the nature of both input spaces. Therefore, it is understood that the metaphorical construction involves much more than mere mapping from one concept to another, and that the emergence of metaphoricity does not rely only on patterns of directionality and abstract-concrete relations. It was proposed that aspects such as schematicity and entrenchment are of utmost importance when it comes to understand the nature of metaphors and their dynamics.

Furthermore, this study has suggested that there is a need to understand the nature of both source and target concepts and the result of their interaction, which can lead to a featural analysis of the types of elaboration that constitute the process of meaning construction. Thus, understanding metaphor, metonymy and literal interpretations as a continuum may account for the fact that some conceptual relations evoke interpretations based on different types of elaboration, and that the conceptual system does not simply perceives reality literally or metaphorically, but also metonymically, evidencing the possibility of a continuum effect.

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Appendix A: Data Analysis by Source

1. Analysis by Source

The present appendix gathers tables, charts and graphs in relation to the data analysis of each target concept in the metaphorical constructions. First, there is a table that features the pairings of each source concept to the rest concepts that serve as target, presenting average difficulty, concentration value and the number of domains sanctioned. Then, a table presenting the types of integration for each metaphor in relation to difficulty and convergence. Consequently, the pie charts displays all the different domains sanctioned in each pairing. A line graph correlating difficulty and concentration is also present, followed by bar charts that show the relation between type of integration and difficulty and concentration by each source.

1.1. Source: Dinner

Table A.1.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This joke is a dinner	3.64	1.122	13
This wife is a dinner	3.76	1.188	13
This thorn is a dinner	3.92	1.311	10
This wedding is a dinner	3.52	1.441	12
This movie is a dinner	3.28	1.543	14
This viper is a dinner	4.2	1.754	12
This memory is a dinner	3.48	1.801	12
This trap is a dinner	4.2	2.321	9
This symphony is a dinner	2.96	3.36	9
TOTAL AVERAGE	**3.66**	**1.67**	**11.55**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with dinner as source concept.

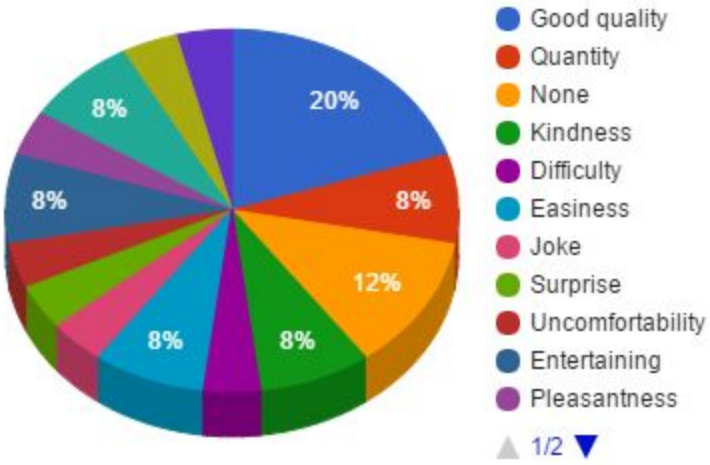
Table A.1.2

Difficulty by Types of Integration

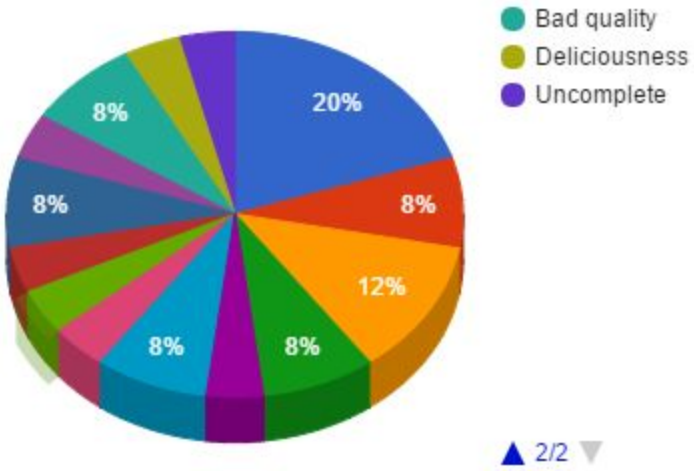
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This joke is a dinner	0%	-	92%	3.5	0%	-	8%	5
This wife is a dinner	0%	-	88%	3.6	0%	-	12%	5
This thorn is a dinner	4%	2	72%	3.9	4%	3	20%	4.4
This wedding is a dinner	16%	2	72%	3.6	0%	-	12%	5
This movie is a dinner	0%	-	96%	3.2	0%	-	4%	5
This viper is a dinner	20%	4	64%	4.1	0%	-	16%	5
This memory is a dinner	0%	-	92%	3.3	0%	-	8%	5
This trap is a dinner	0%	-	64%	3.9	4%	3	32%	4.9
This symphony is a dinner	4%	3	84%	2.9	0%	-	12%	4

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source dinner.

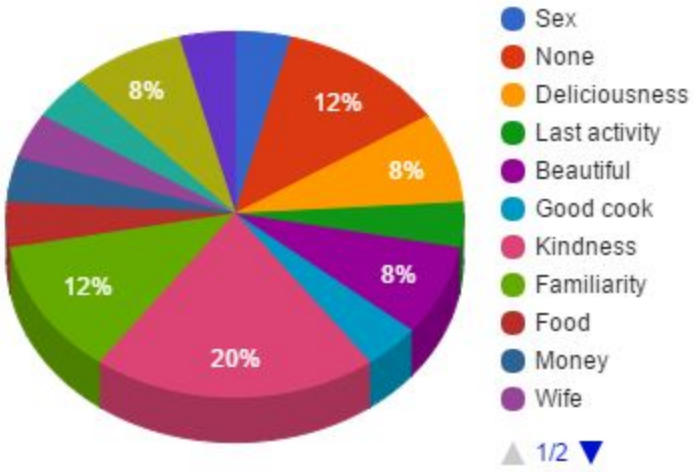
Domains Sanctioned in "This joke is a dinner" (1 of 2)



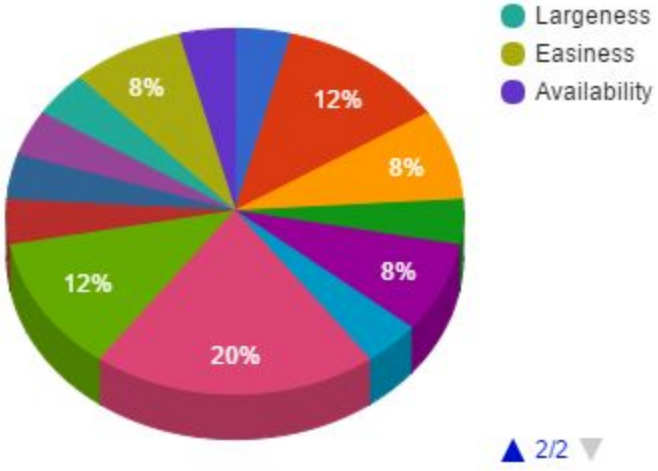
Domains Sanctioned in "This joke is a dinner" (2 of 2)



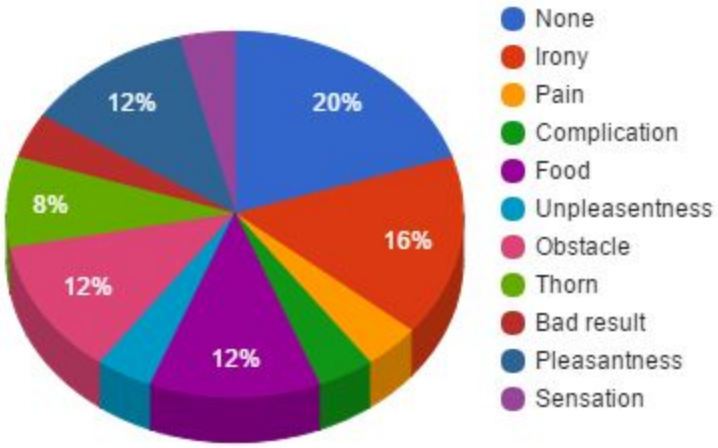
Domains Sanctioned in "This wife is a dinner" (1 of 2)



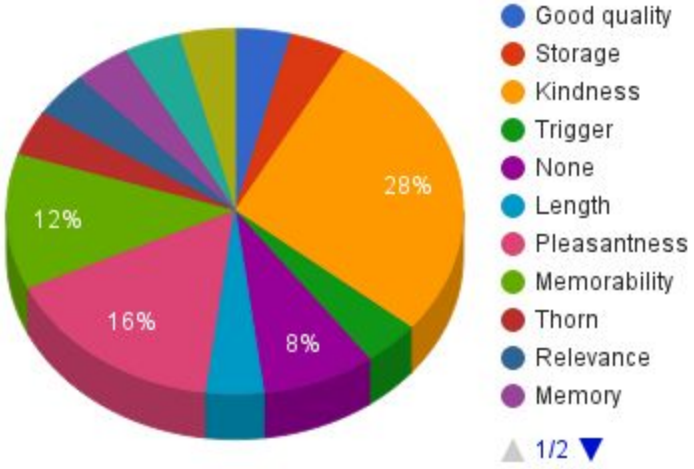
Domains Sanctioned in "This wife is a dinner" (2 of 2)



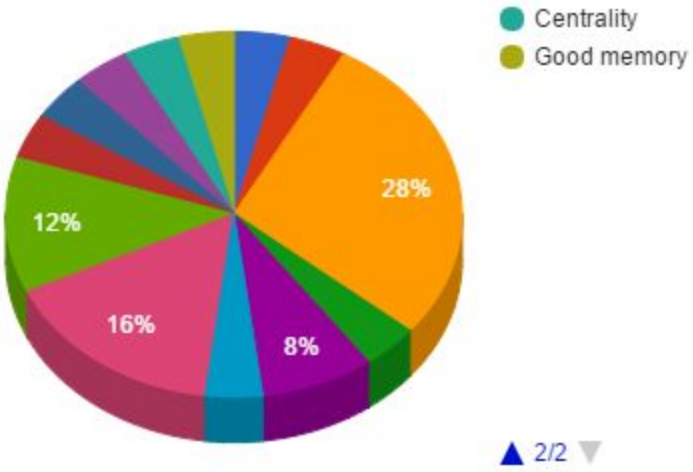
Domains Sanctioned in "This thorn is a dinner"



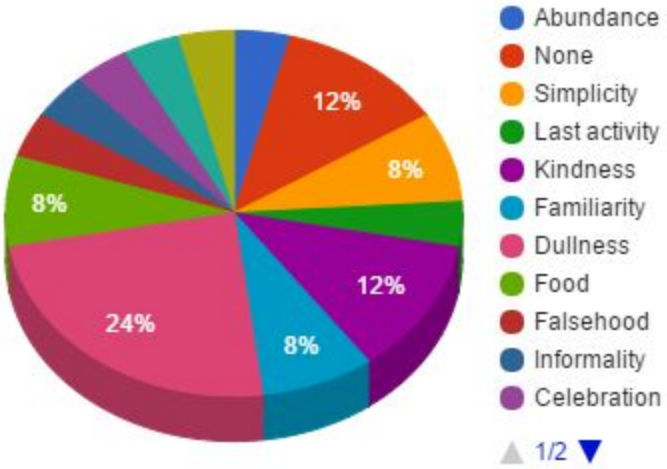
Domains Sanctioned in "This memory is a dinner" (1 of 2)



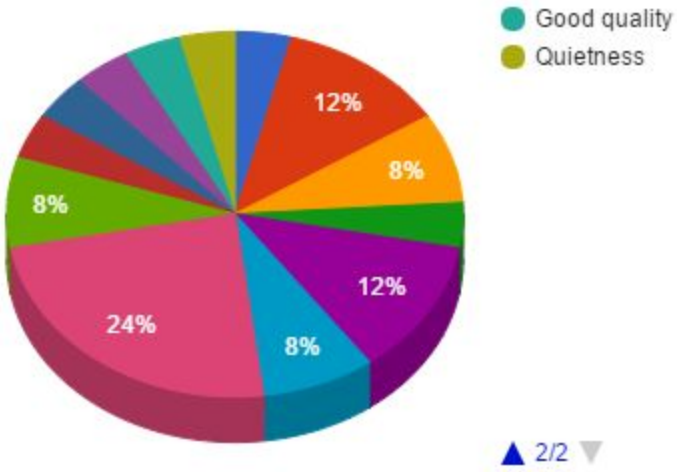
Domains Sanctioned in "This memory is a dinner" (2 of 2)



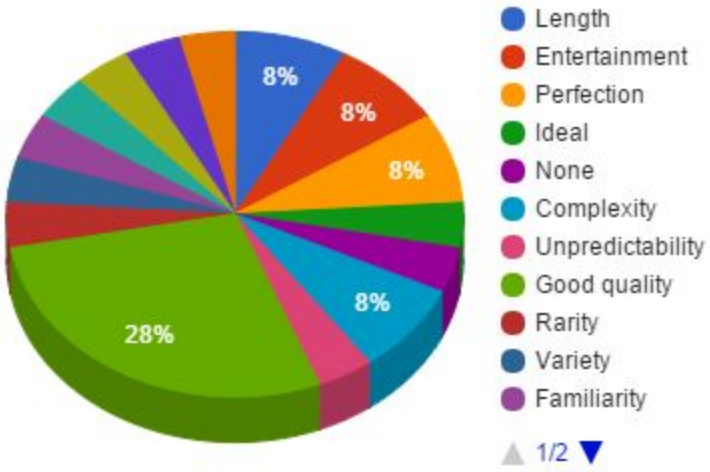
Domains Sanctioned in "This wedding is a dinner" (1 of 2)



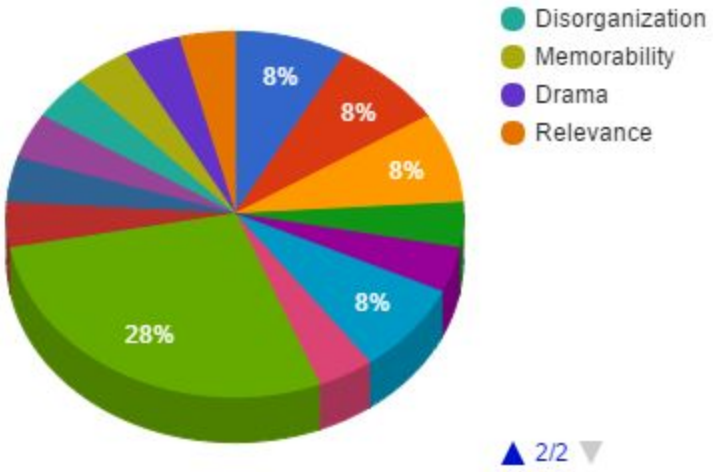
Domains Sanctioned in "This wedding is a dinner" (2 of 2)



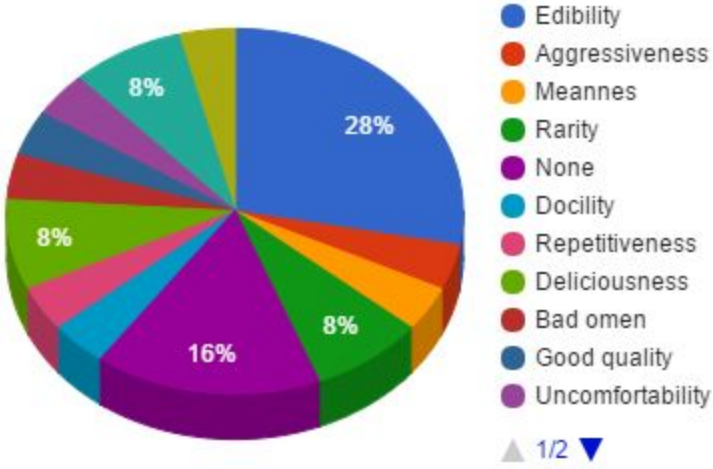
Domains Sanctioned in "This movie is a dinner" (1 of 2)



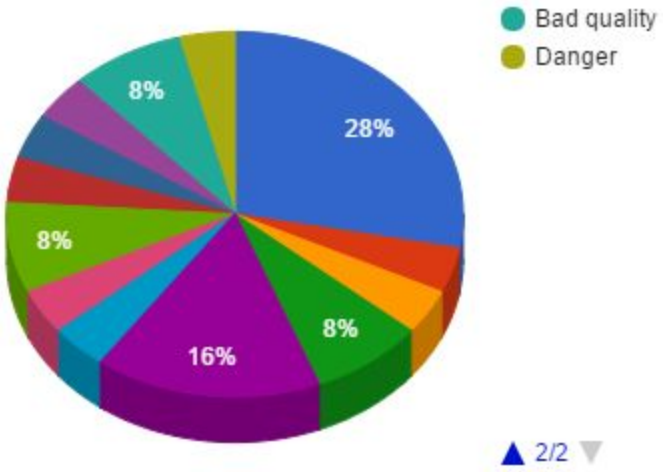
Domains Sanctioned in "This movie is a dinner" (2 of 2)



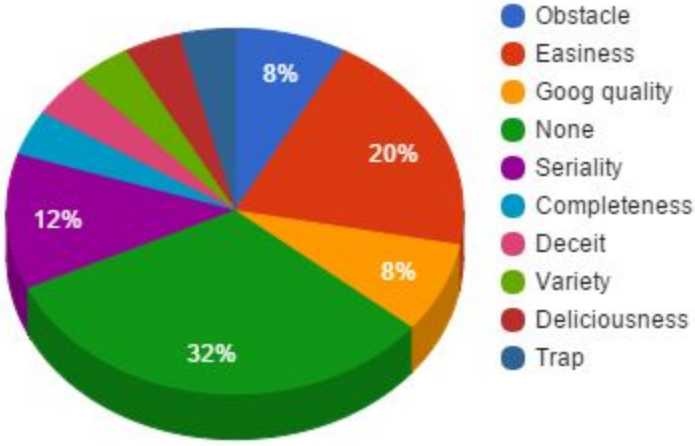
Domains Sanctioned in "This viper is a dinner" (1 of 2)

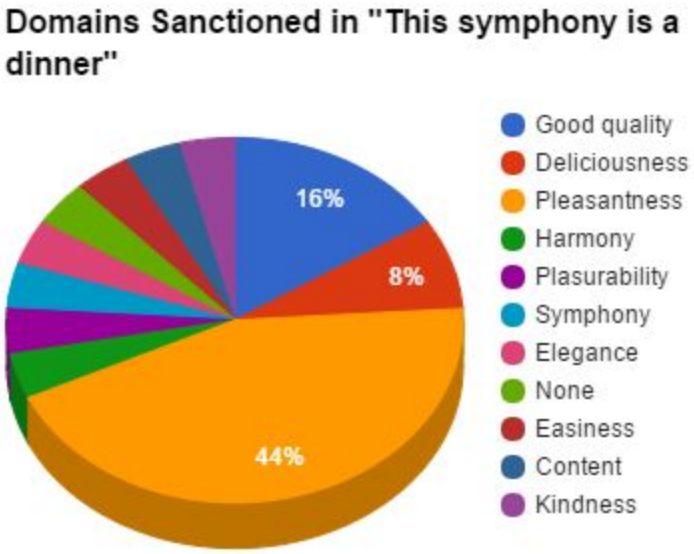


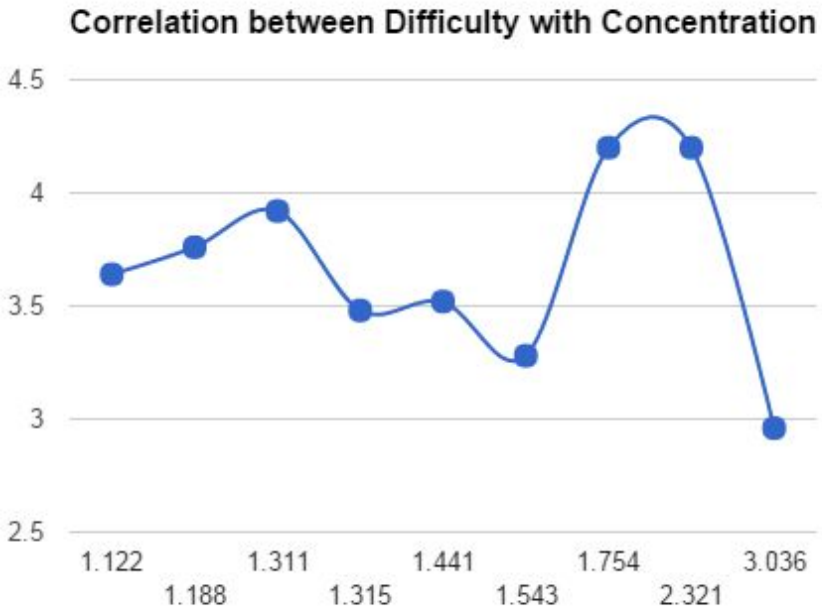
Domains Sanctioned in "This viper is a dinner" (2 of 2)

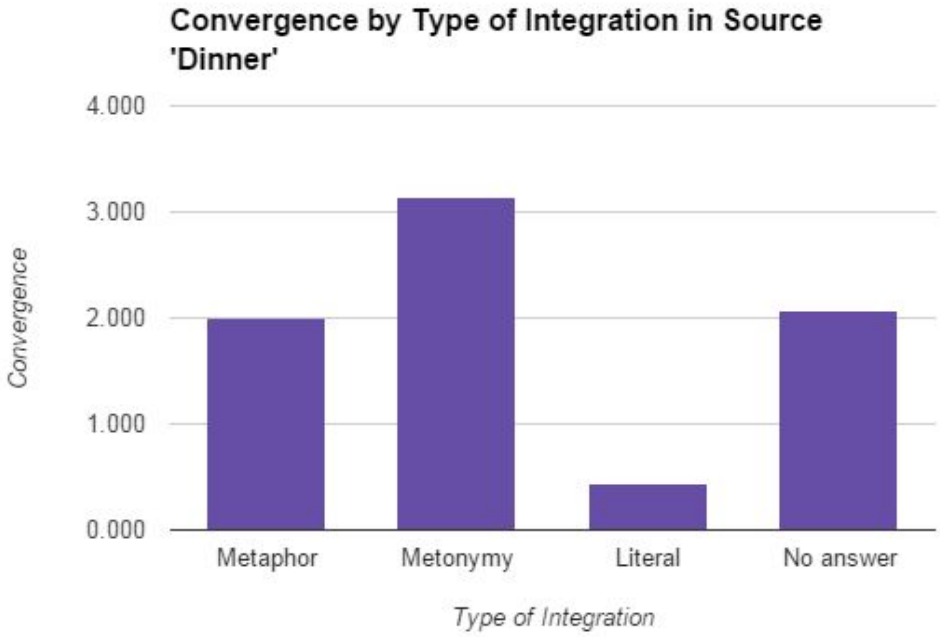


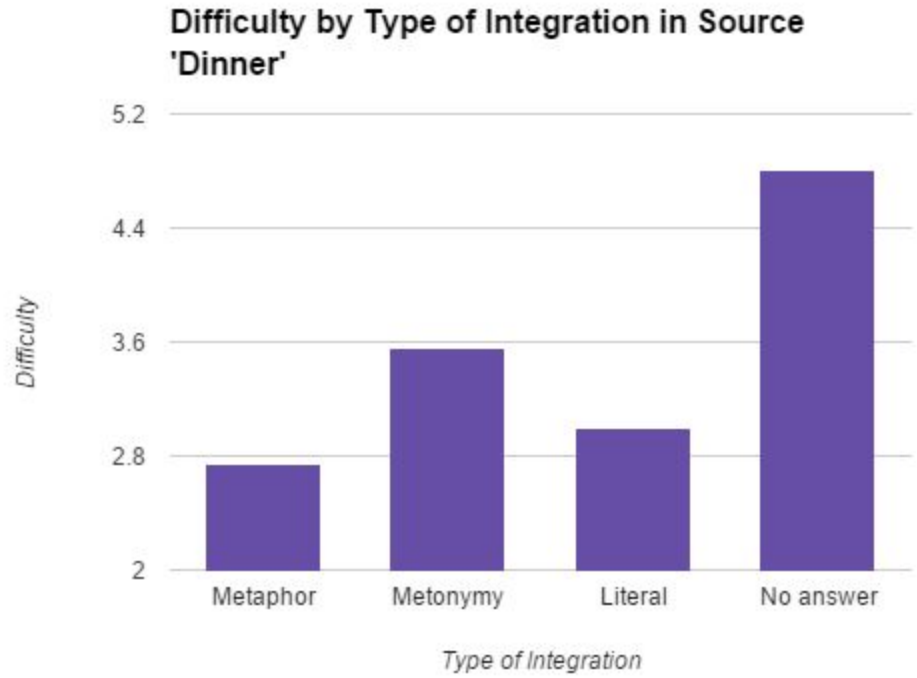
Domains Sanctioned in "This trap is a dinner"




Domains Sanctioned in "This symphony is a dinner"
16%
8%
44%
Good quality
Deliciousness
Pleasantness
Harmony
Plasurability
Symphony
Elegance
None
Easiness
Content
Kindness


Correlation between Difficulty with Concentration
4.5
4
3.5
3
2.5
1.122
1.188
1.311
1.315
1.441
1.543
1.754
2.321
3.036


Convergence by Type of Integration in Source 'Dinner'
4.000
3.000
2.000
1.000
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Dinner'
5.2
4.4
3.6
2.8
2
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.2. Source: Joke

Table A.2.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This trap is a joke	1.92	2.748	7
This wife is a joke	2.08	3.091	8
This memory is a joke	2.76	3.869	6
This thorn is a joke	2.76	3.91	7
This wedding is a joke	1.84	4.243	4
This viper is a joke	2.16	5.56	3
This symphony is a joke	1.92	7.278	5
This movie is a joke	1.84	7.757	6
This dinner is a joke	1.6	8.539	3
TOTAL AVERAGE	**2.09**	**5.221**	**5.44**

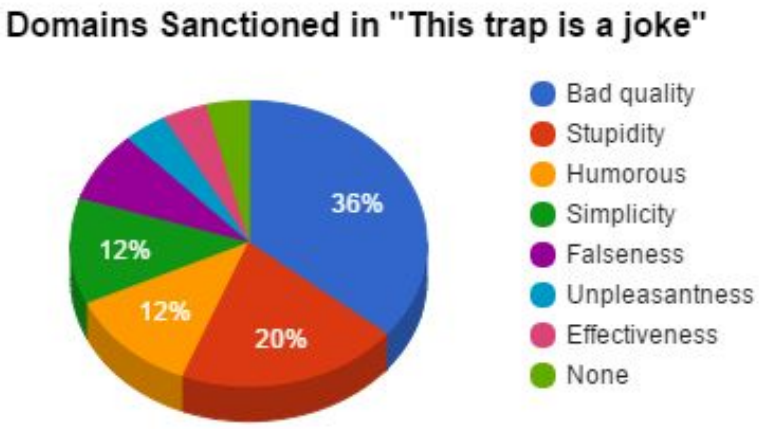
Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with joke as source concept.

Table A.2.2

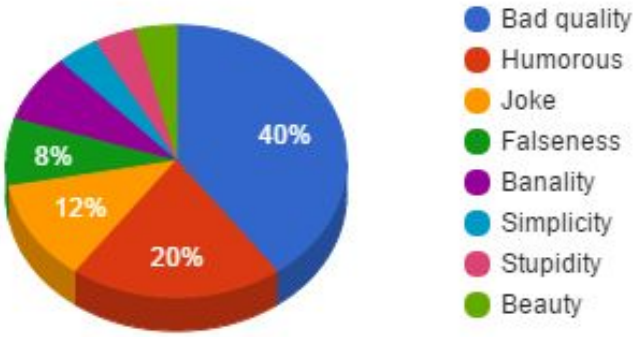
Difficulty by Types of Integration

	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This trap is a joke	84%	1.8	12%	2.33	-	-	4%	3
This wife is a joke	72%	2.05	16%	2.25	12%	2	-	-
This memory is a joke	80%	3	16%	2	-	-	4%	1
This thorn is a joke	96%	2.75	4%	3	-	-	-	-
This wedding is a joke	92%	1.69	-	-	-	-	8%	3.5
This viper is a joke	88%	2.13	4%	2	-	-	8%	2.5
This symphony is a joke	96%	1.83	-	-	-	-	4%	4
This movie is a joke	96%	1.83	-	-	4%	3	-	-
This dinner is a joke	94%	1.65	4%	1	-	-	4%	1

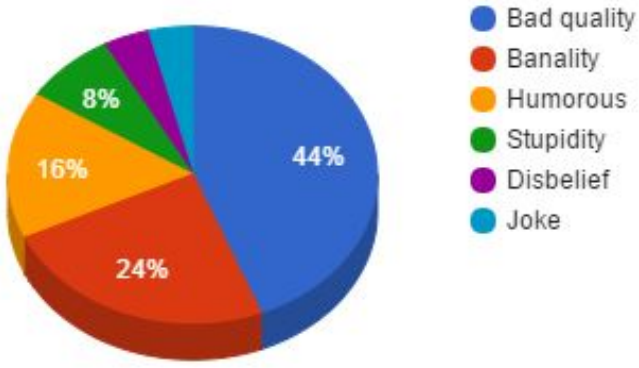
Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source joke.

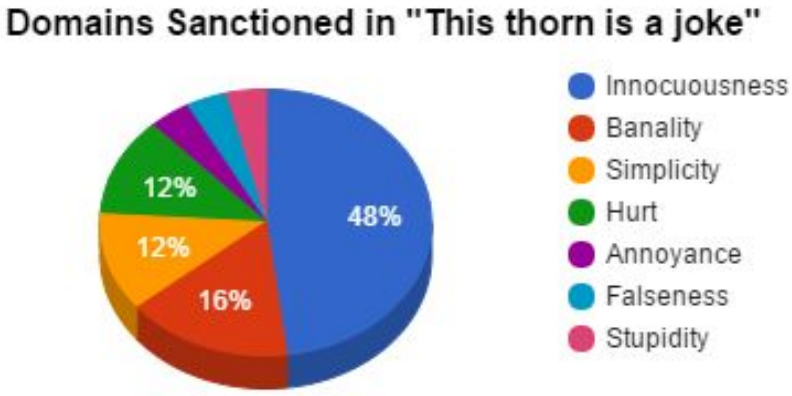

Domains Sanctioned in "This trap is a joke"
36%
20%
12%
12%
Bad quality
Stupidity
Humorous
Simplicity
Falseness
Unpleasantness
Effectiveness
None

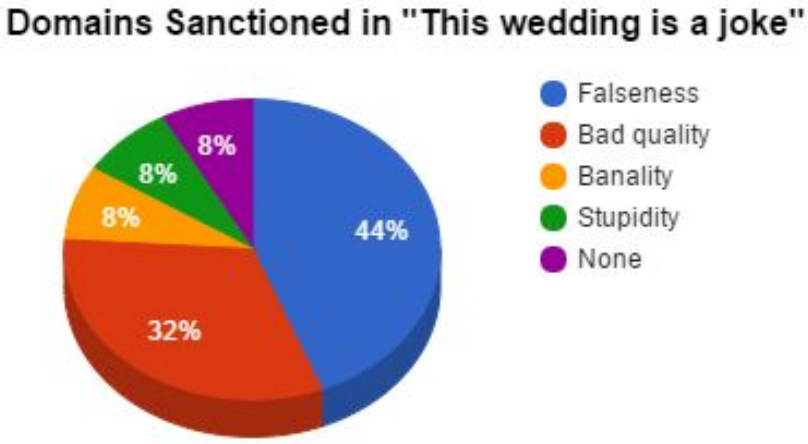
Domains Sanctioned in "This wife is a joke"

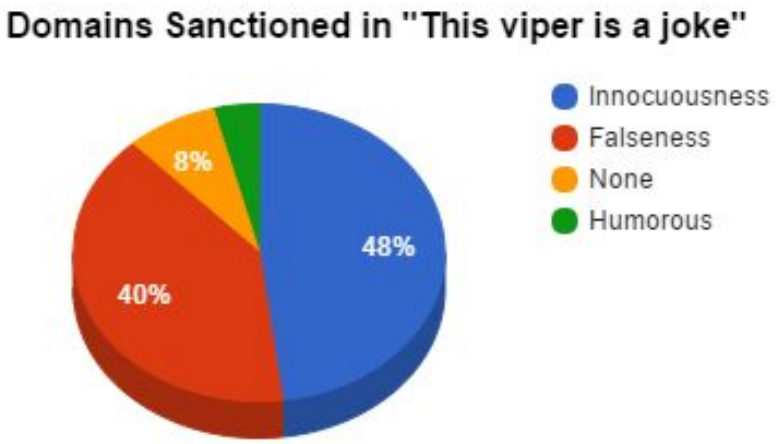


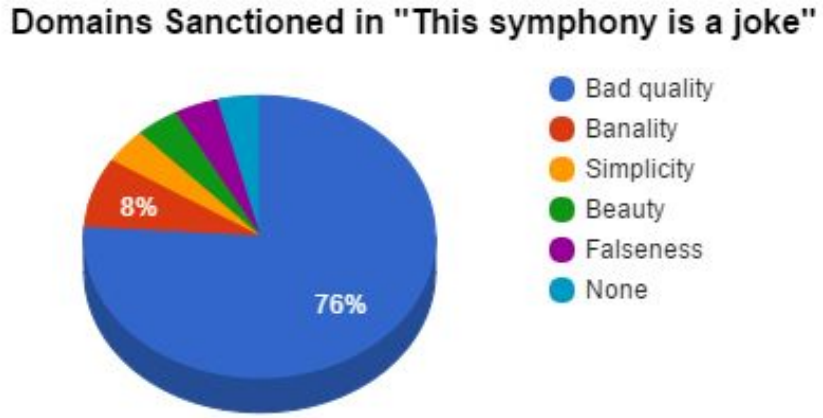
Domains Sanctioned in "This memory is a joke"

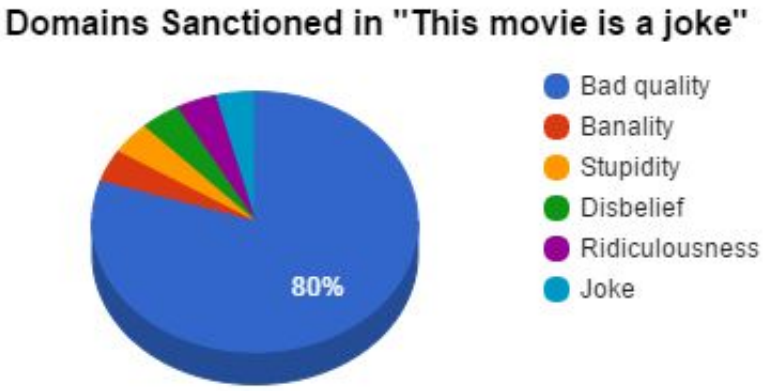


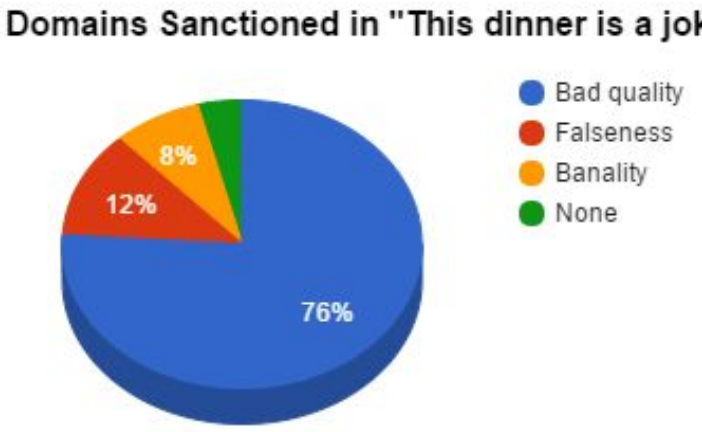

Domains Sanctioned in "This thorn is a joke"
48%
16%
12%
12%
Innocuousness
Banality
Simplicity
Hurt
Annoyance
Falseness
Stupidity

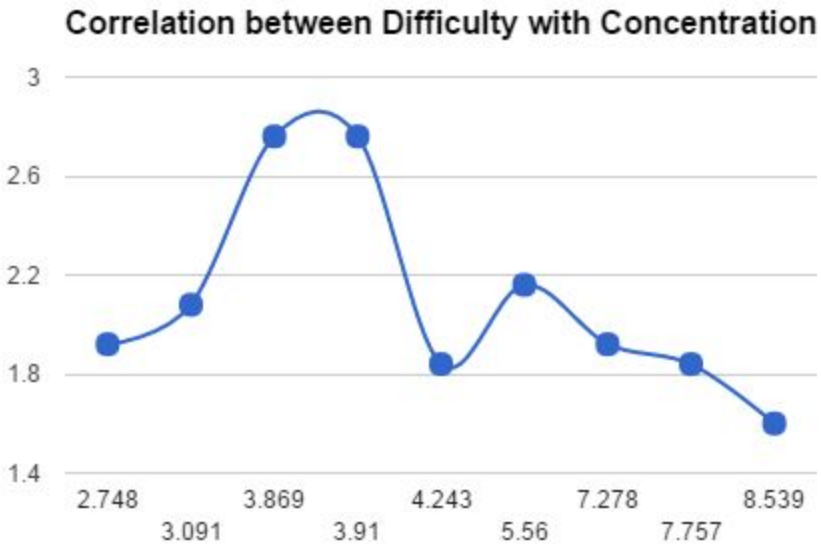

Domains Sanctioned in "This wedding is a joke"
44%
32%
8%
8%
8%
Falseness
Bad quality
Banality
Stupidity
None

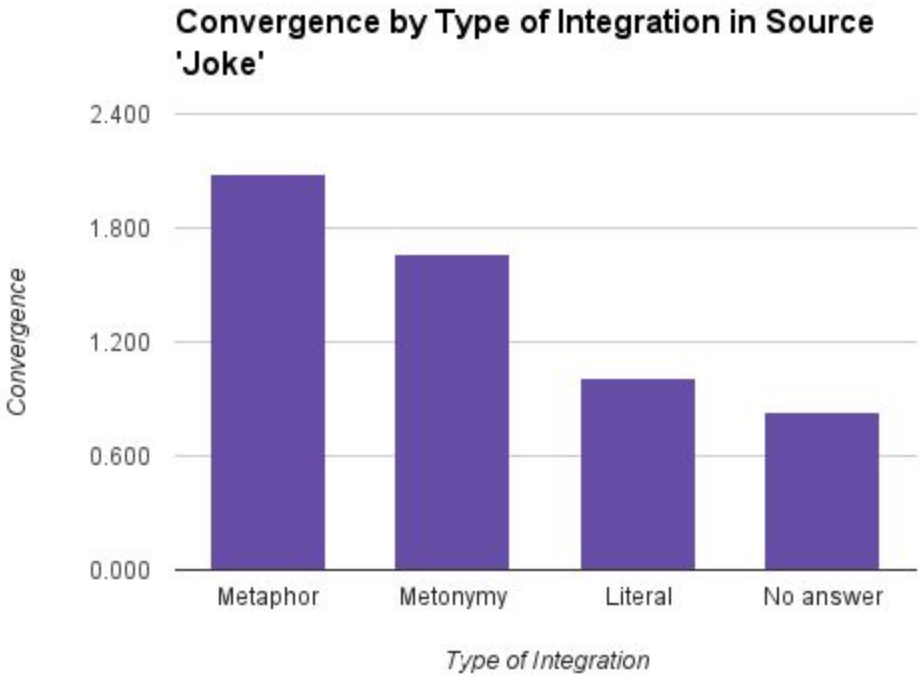

Domains Sanctioned in "This viper is a joke"
Innocuousness
Falseness
None
Humorous
48%
40%
8%

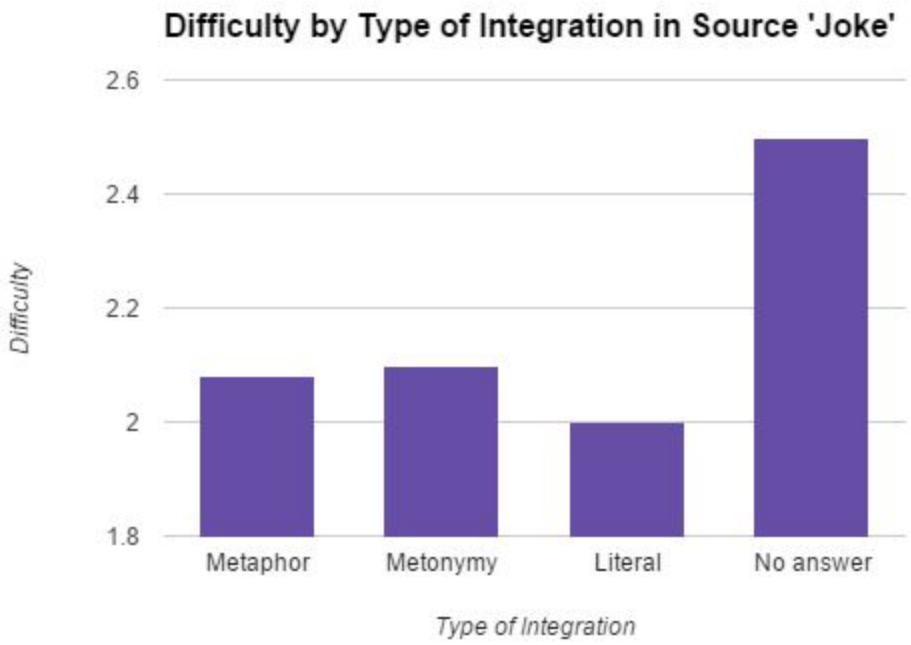

Domains Sanctioned in "This symphony is a joke"
8%
76%
Bad quality
Banality
Simplicity
Beauty
Falseness
None


Domains Sanctioned in "This movie is a joke"
80%
Bad quality
Banality
Stupidity
Disbelief
Ridiculousness
Joke


Domains Sanctioned in "This dinner is a joke"
Bad quality
Falseness
Banality
None
8%
12%
76%


Correlation between Difficulty with Concentration
3
2.6
2.2
1.8
1.4
2.748
3.091
3.869
3.91
4.243
5.56
7.278
7.757
8.539


Convergence by Type of Integration in Source 'Joke'
2.400
1.800
1.200
0.600
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Joke'
2.6
2.4
2.2
2
1.8
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.3. Source: Memory

Table A.3.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This joke is a memory	2.84	1.311	11
This trap is a memory	3.64	1.311	11
This wedding is a memory	2.68	2.438	8
This wife is a memory	3.32	2.748	7
This symphony is a memory	3.36	2.9	7
This viper is a memory	3.24	3.27	8
This dinner is a memory	2.46	3.505	6
This movie is a memory	2.08	3.682	8
This thorn is a memory	3	3.735	7
TOTAL AVERAGE	**2.96**	**2.767**	**8.11**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with memory as source concept.

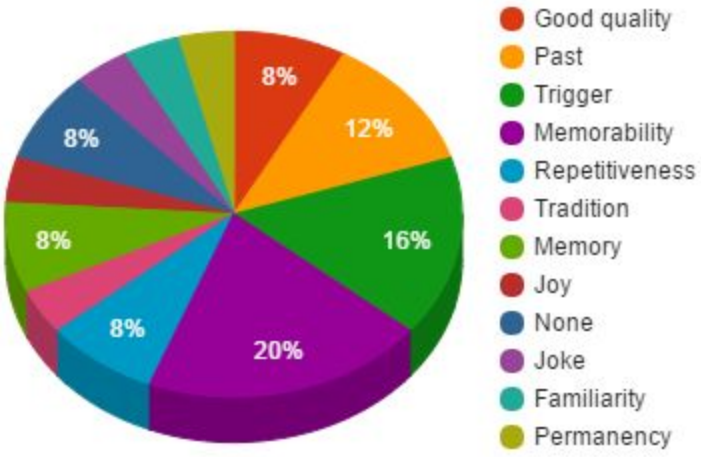
Table A.3.2

Difficulty by Types of Integration

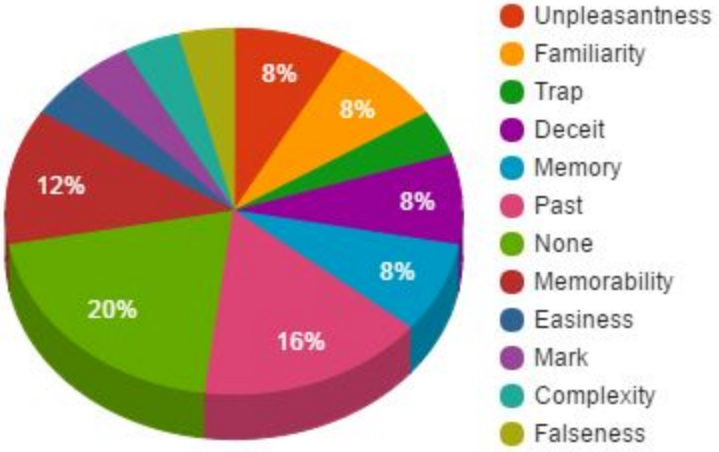
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This joke is a memory	28%	2.86	56%	2.97	16%	3	-	-
This trap is a memory	28%	3	48%	3.67	8%	5	20%	5
This wedding is a memory	52%	2.31	36%	3.11	8%	2	4%	5
This wife is a memory	12%	4	80%	3	-	-	8%	5
This symphony is a memory	28%	3.43	64%	3.38	-	-	8%	3
This viper is a memory	32%	2.63	64%	3.44	-	-	4%	5
This dinner is a memory	44%	2.36	52%	2.54	-	-	4%	2.46
This movie is a memory	32%	1.88	68%	2.18	-	-	-	-
This thorn is a memory	12%	1.88	88%	2.18	-	-	-	-

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source joke.

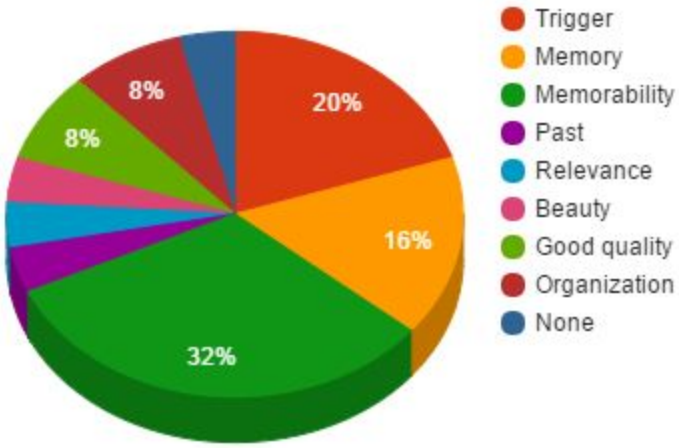
Domains Sanctioned in "This joke is a memory"



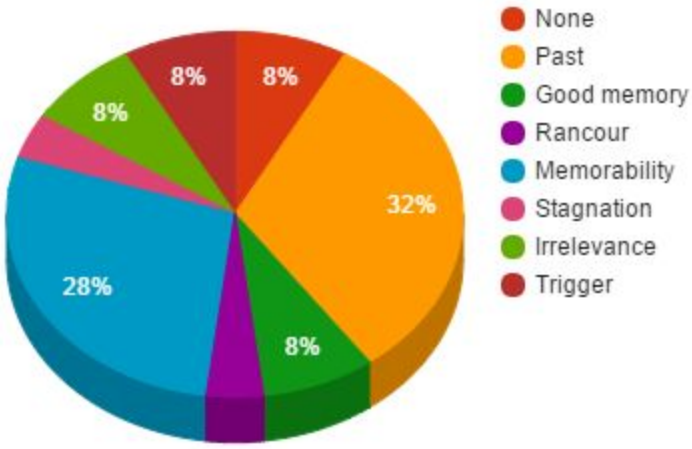
Domains Sanctioned in "This trap is a memory"



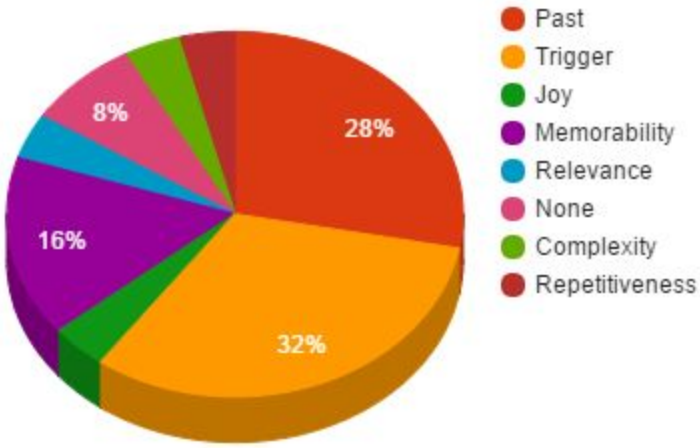
Domains Sanctioned in "This wedding is a memory"



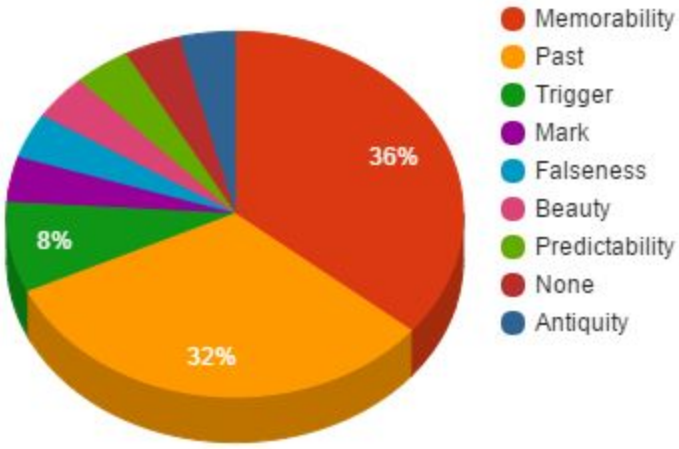
Domains Sanctioned in "This wife is a memory"



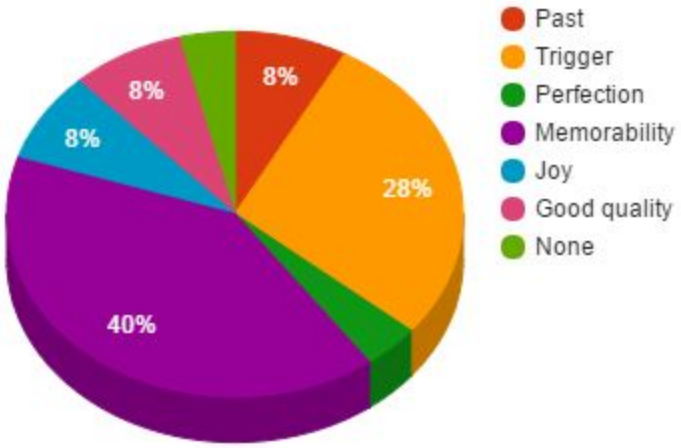
Domains Sanctioned in "This symphony is a memory"



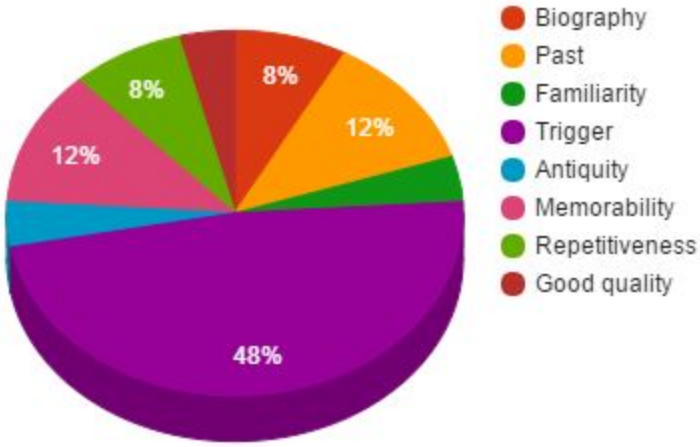
Domains Sanctioned in "This viper is a memory"

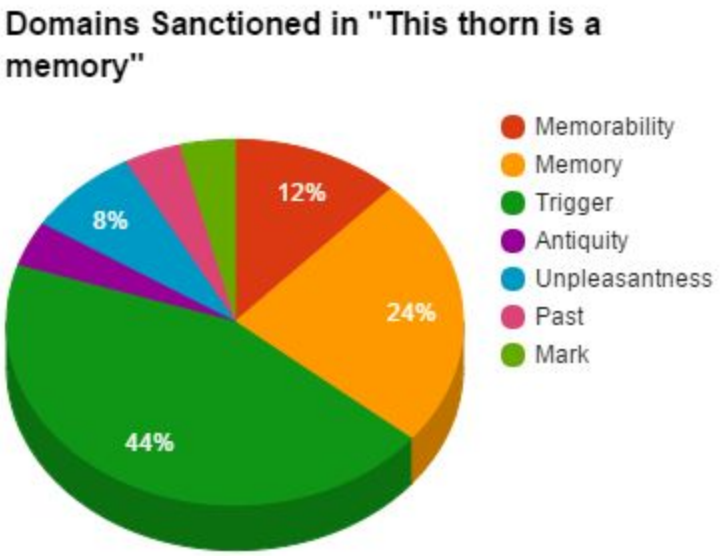


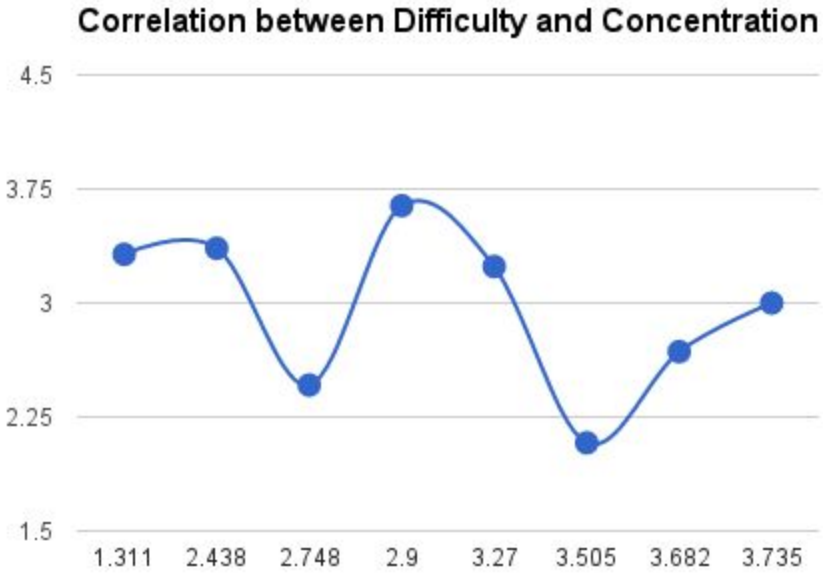
Domains Sanctioned in "This dinner is a memory"

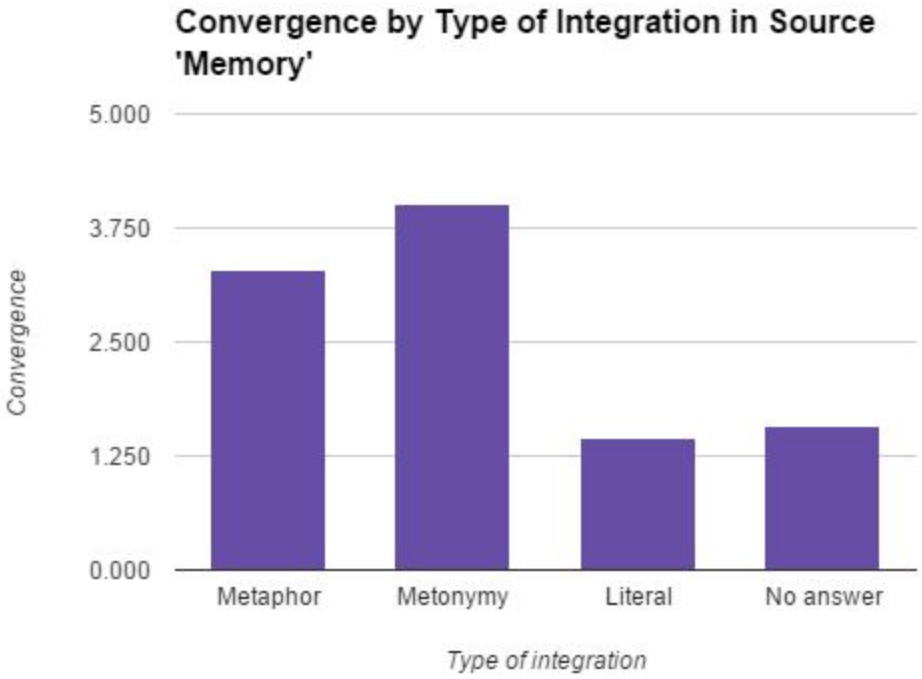


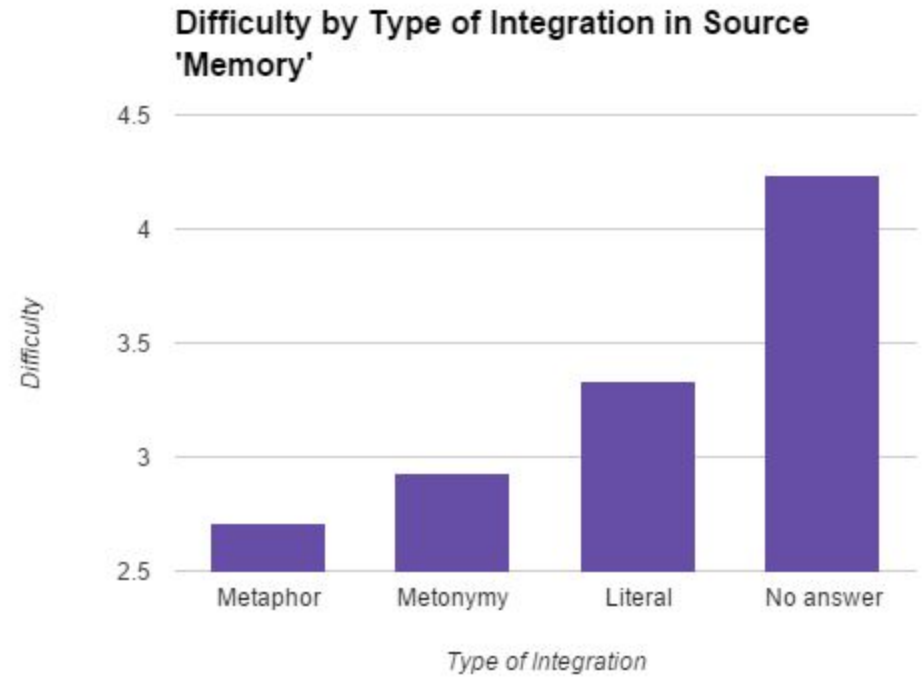
Domains Sanctioned in "This movie is a memory"




Domains Sanctioned in "This thorn is a memory"
Memorability
Memory
Trigger
Antiquity
Unpleasantness
Past
Mark
12%
24%
44%
8%


Correlation between Difficulty and Concentration
4.5
3.75
3
2.25
1.5
1.311
2.438
2.748
2.9
3.27
3.505
3.682
3.735


Convergence by Type of Integration in Source 'Memory'
5.000
3.750
2.500
1.250
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of integration


Difficulty by Type of Integration in Source 'Memory'
4.5
4
3.5
3
2.5
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.4. Source: Movie

Table A.4.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This joke is a movie	3.28	0.816	15
This wedding is a movie	2.12	0.964	15
This symphony is a movie	2.6	1.175	14
This viper is a movie	3.28	1.345	13
This wife is a movie	3	1.841	9
This dinner is a movie	3.6	1.929	11
This memory is a movie	2.48	2.216	12
This trap is a movie	2.72	2.461	9
This thorn is a movie	4.04	3.137	7
TOTAL AVERAGE	**3.01**	**1.764**	**11.66**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with movie as source concept.

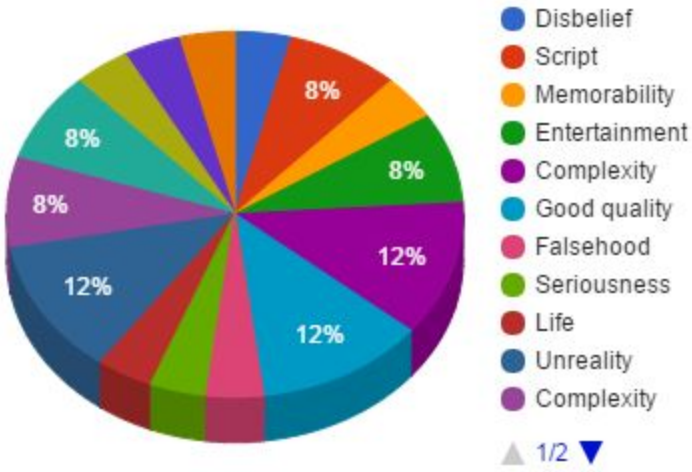
Table A.4.2

Difficulty by Types of Integration

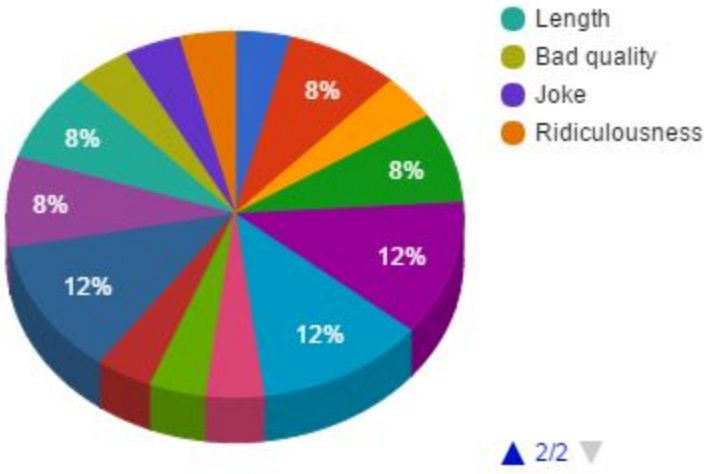
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This joke is a movie	4%	4	96%	3.3	-	-	-	-
This wedding is a movie	-	-	88%	2.7	8%	2	4%	5
This symphony is a movie	4%	1	76%	2.7	12%	2	8%	3
This viper is a movie	4%	4	80%	3.3	12%	2	4%	5
This wife is a movie	-	-	84%	2.9	4%	3	12%	4
This dinner is a movie	4%	1	88%	3.6	-	-	8%	5
This memory is a movie	4%	2	84%	2.6	8%	2	4%	4
This trap is a movie	-	-	88%	2.6	4%	2	8%	4
This thorn is a movie	-	-	68%	3.8	8%	4	24%	4.8

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source movie.

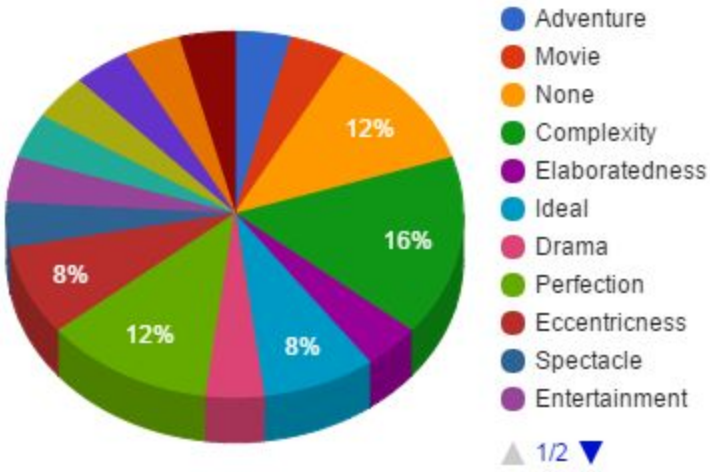
Domains Sanctioned in "This joke is a movie" (1 of 2)



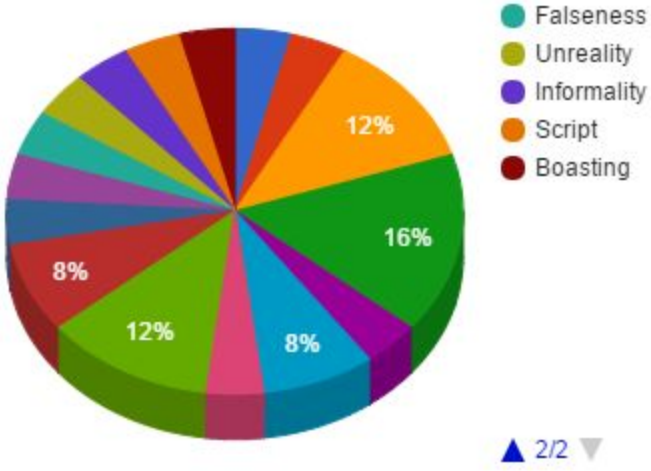
Domains Sanctioned in "This joke is a movie" (2 of 2)



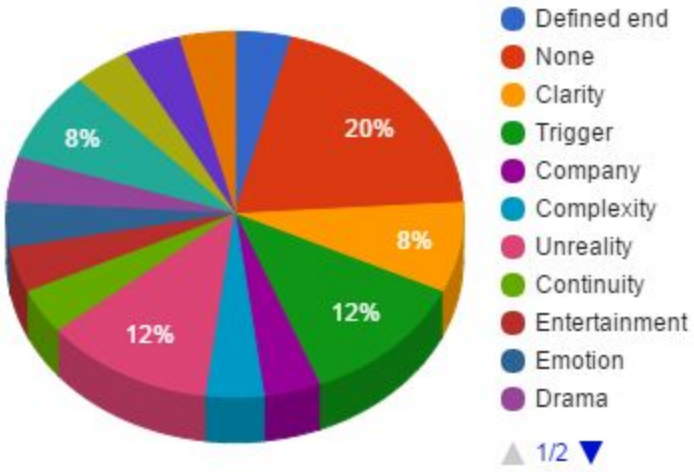
Domains Sanctioned in "This wedding is a movie" (1 of 2)



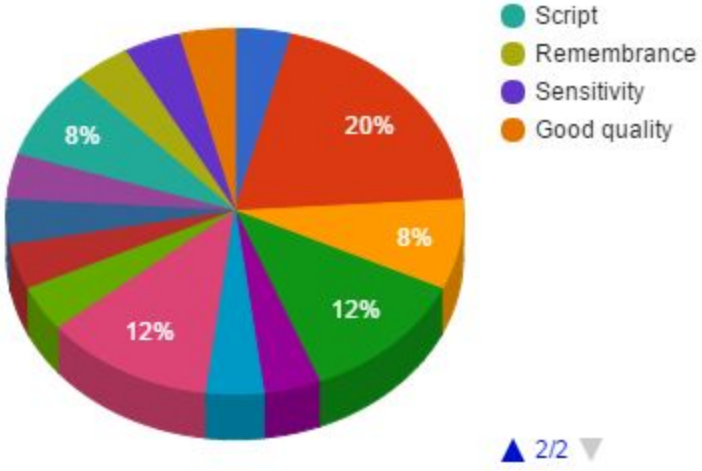
Domains Sanctioned in "This wedding is a movie" (2 of 2)



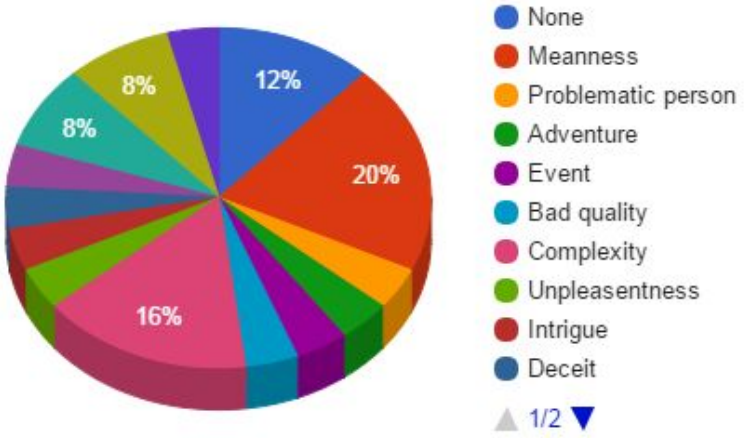
Domains sanctioned in "This symphony is a movie" (1 of 2)



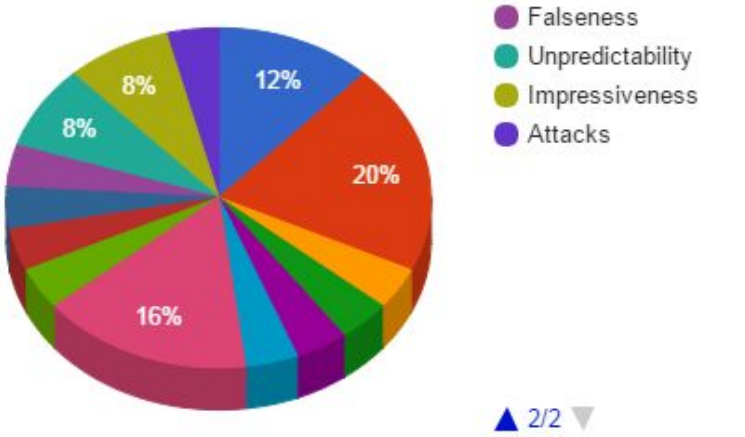
Domains Sanctioned in "This symphony is a movie" (2 of 2)



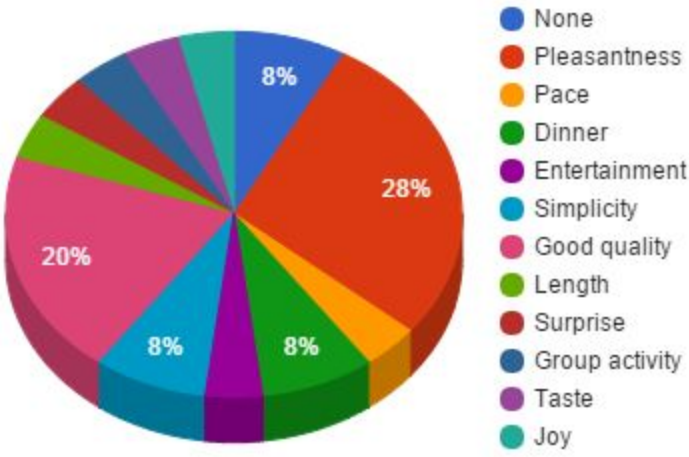
Domains Sanctioned in "This viper is a movie" (1 of 2)



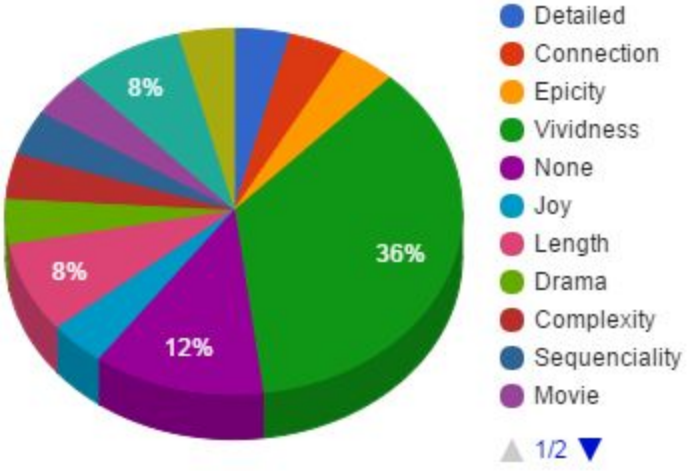
Domains Sanctioned in "This viper is a movie" (2 of 2)



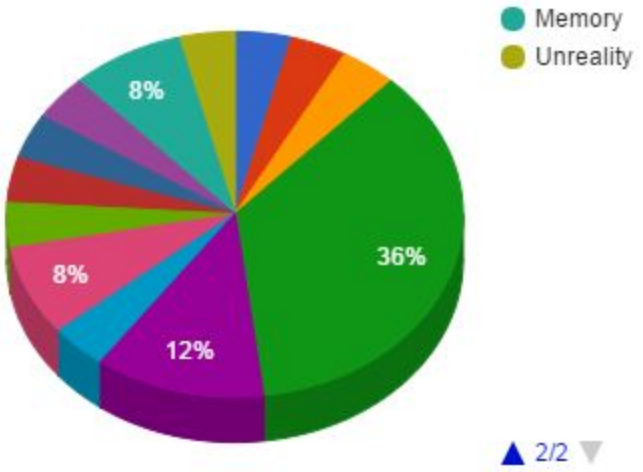
Domains Sanctioned in "This dinner is a movie"



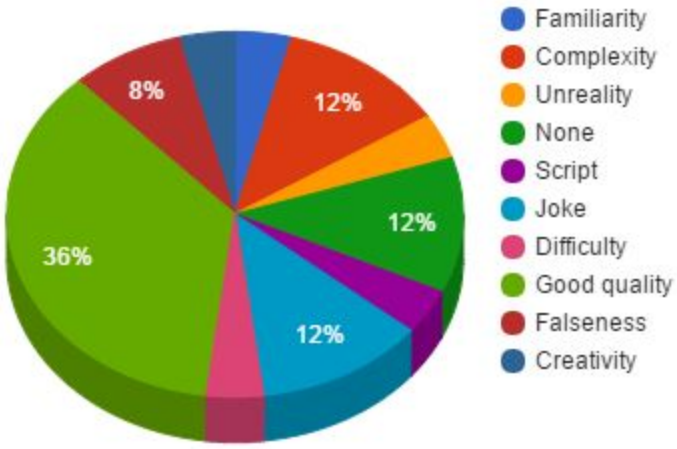
Domains Sanctioned in "This memory is a movie" (1 of 2)

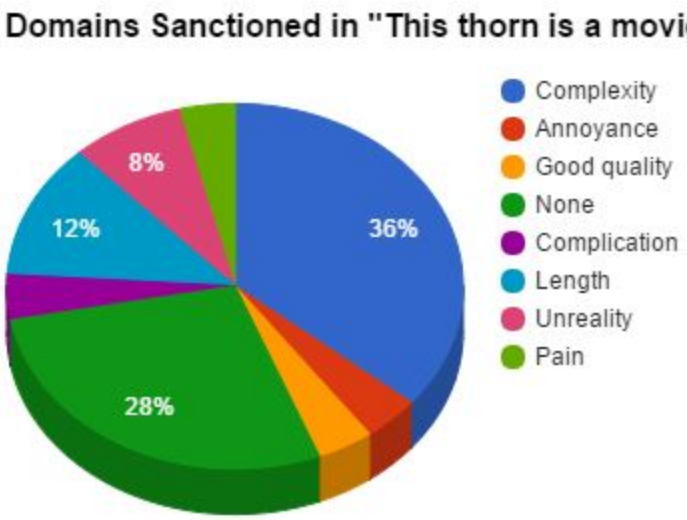


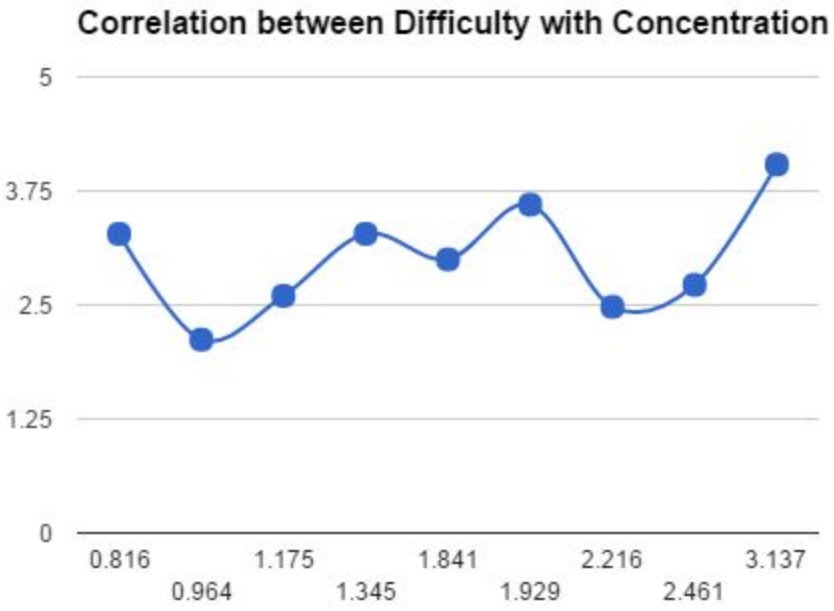
Domains Sanctioned in "This memory is a movie" (2 of 2)

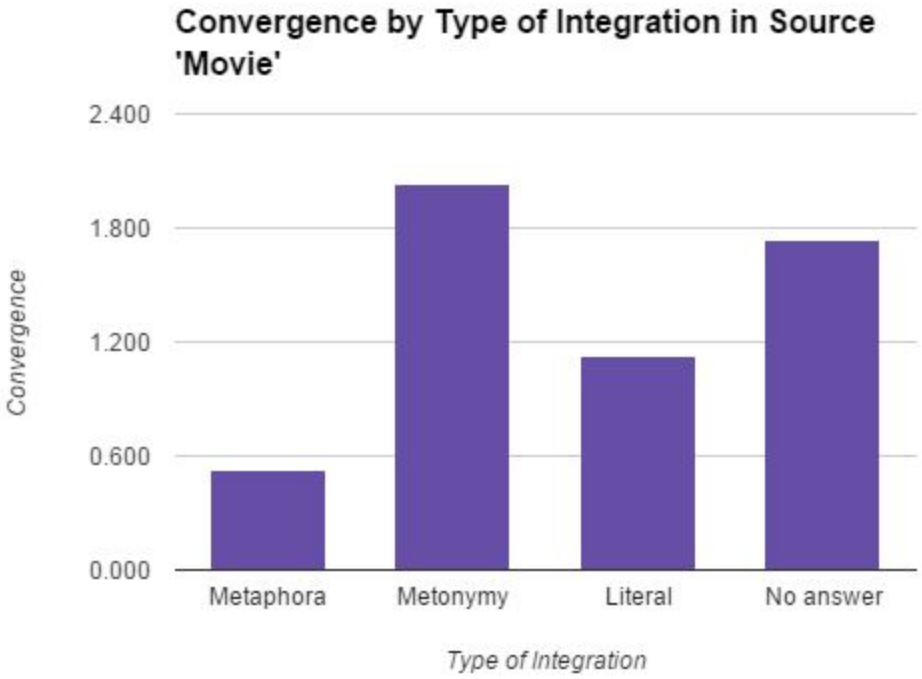


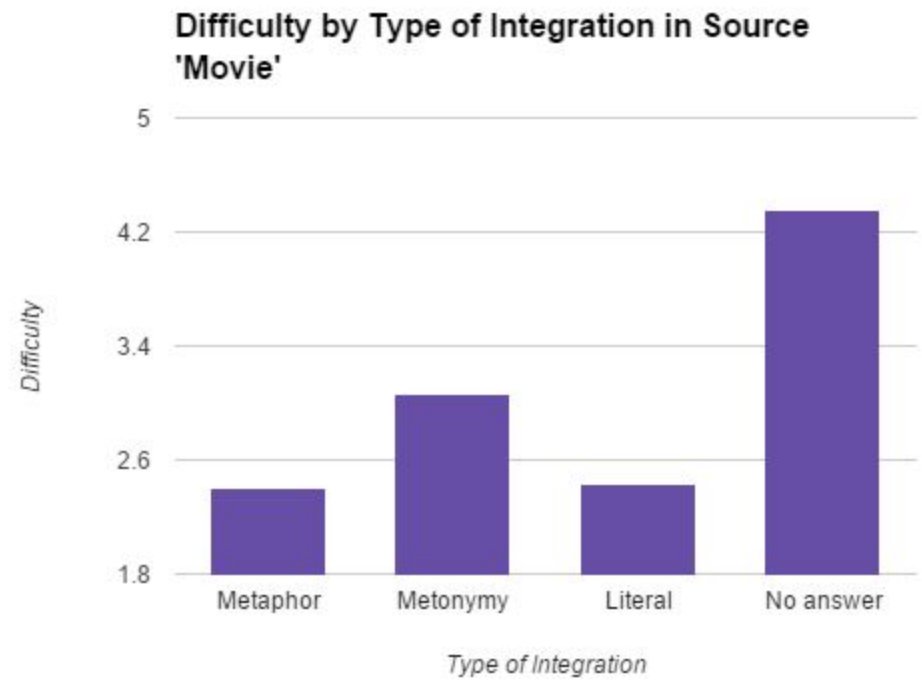
Domains Sanctioned in "This trap is a movie"




Domains Sanctioned in "This thorn is a movie"
Complexity
Annoyance
Good quality
None
Complication
Length
Unreality
Pain
36%
28%
12%
8%


Correlation between Difficulty with Concentration
5
3.75
2.5
1.25
0
0.816
0.964
1.175
1.345
1.841
1.929
2.216
2.461
3.137


Convergence by Type of Integration in Source 'Movie'
2.400
1.800
1.200
0.600
0.000
Convergence
Metaphora
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Movie'
5
4.2
3.4
2.6
1.8
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.5. Source: Symphony

Table A.5.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This viper is a symphony	4	1.421	10
This wife is a symphony	2.57	1.512	6
This thorn is a symphony	4.13	2.014	9
This memory is a symphony	2.64	2.082	9
This joke is a symphony	2.68	2.149	10
This wedding is a symphony	2.44	2.507	8
This trap is a symphony	3.32	2.517	7
This movie is a symphony	1.88	3.735	7
This dinner is a symphony	1.96	4.535	6
TOTAL AVERAGE	**2.85**	**2.497**	**8**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with thorn as source concept.

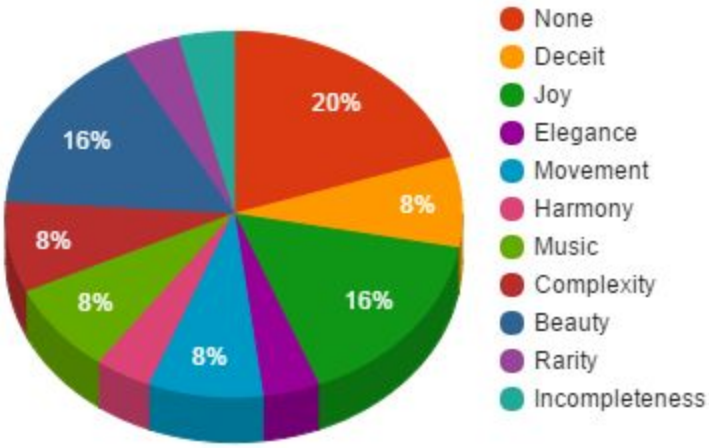
Table A.5.2

Difficulty by Types of Integration

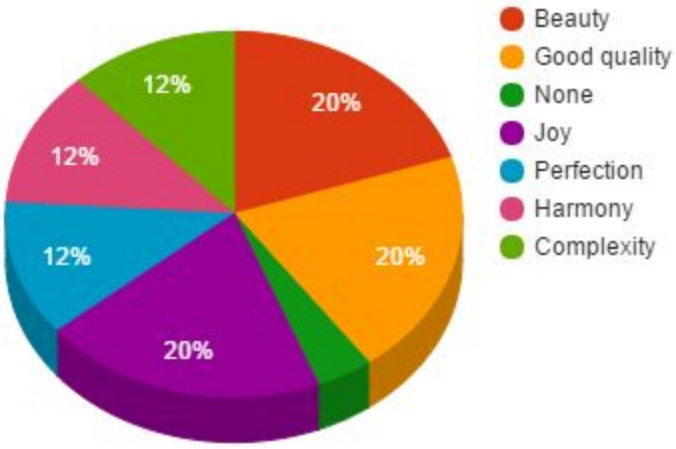
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This viper is a symphony	32%	4.25	48%	3.5	-	-	20%	5
This wife is a symphony	88%	2.52	8%	3	-	-	4%	2.57
This thorn is a symphony	40%	4.11	44%	3.82	4%	5	12%	5
This memory is a symphony	84%	2.57	16%	3	-	-	-	-
This joke is a symphony	64%	2.5	20%	2.6	8%	2	8%	5
This wedding is a symphony	68%	2.47	28%	2.57	-	-	4%	1
This trap is a symphony	72%	3.44	24%	2.67	-	-	4%	5
This movie is a symphony	84%	1.90	12%	1.67	4%	-	-	-
This dinner is a symphony	80%	1.85	20%	2.4	0%	-	-	-

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source thorn.

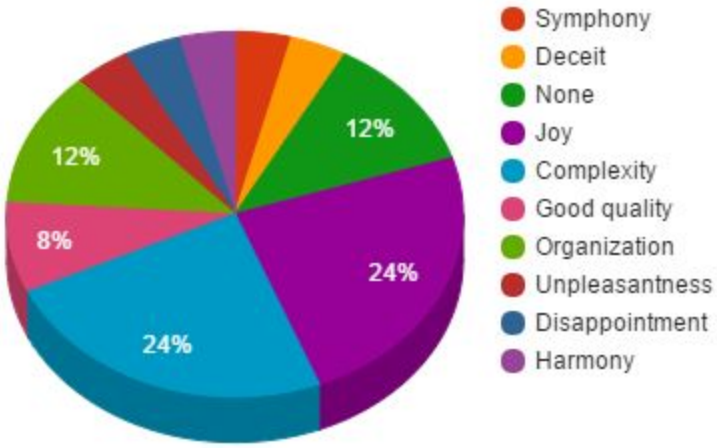
Domains Sanctioned in "This viper is a symphony"



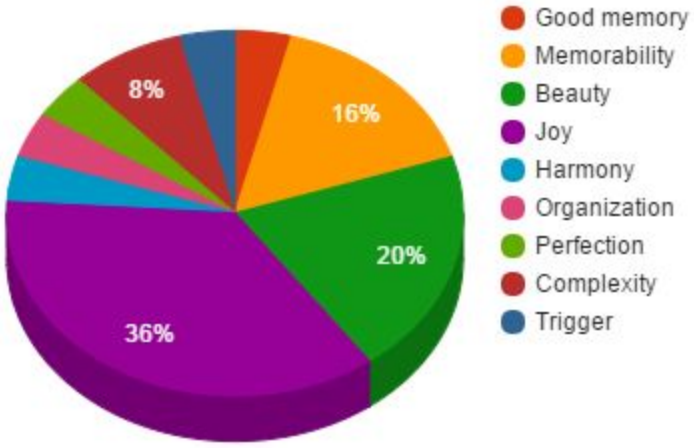
Domains Sanctioned in "This wife is a symphony"



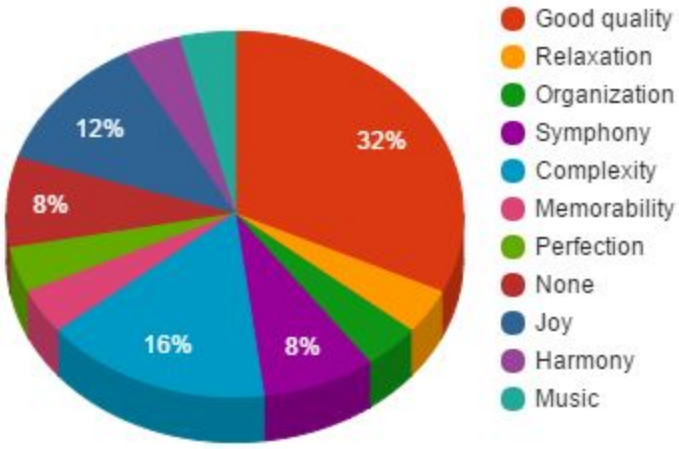
Domains Sanctioned in "This thorn is a symphony"



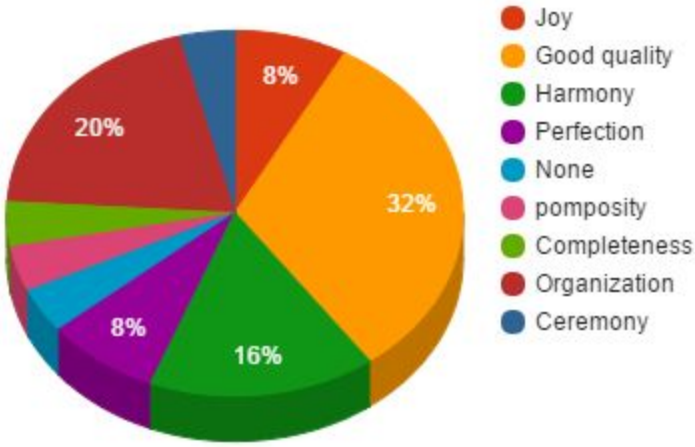
Domains Sanctioned in "This memory is a symphony"



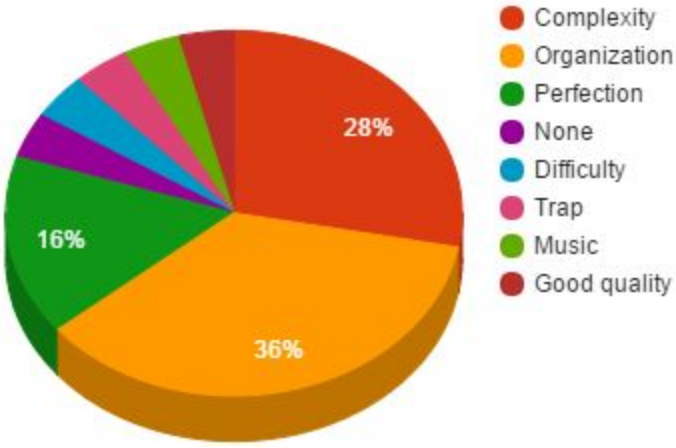
Domains Sanctioned in "This joke is a symphony"



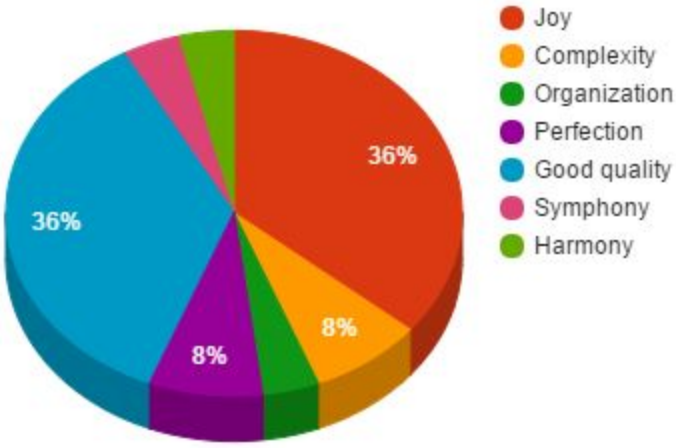
Domains Sanctioned in "This wedding is a symphony"

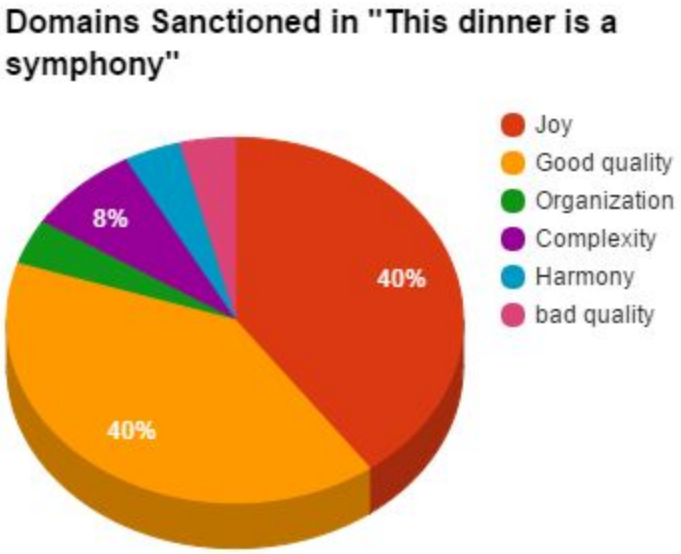


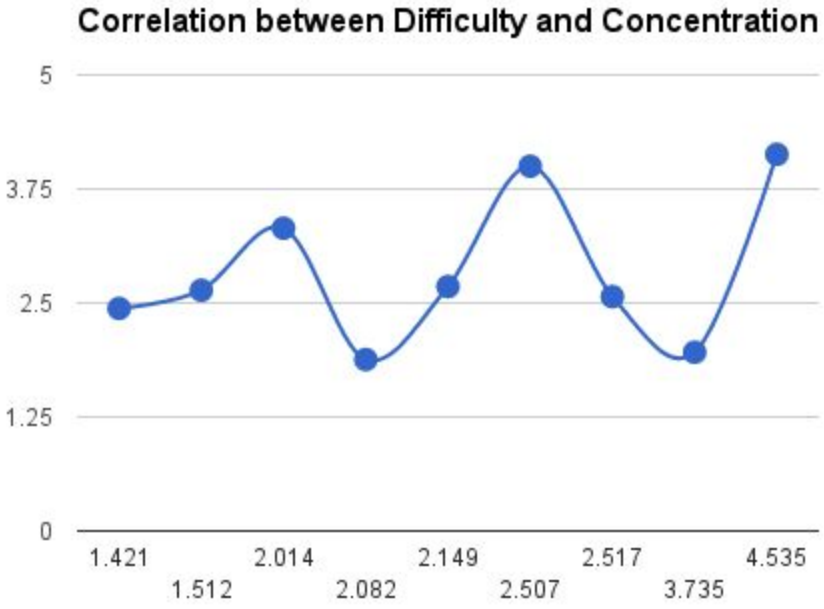
Domains Sanctioned in "This trap is a symphony".

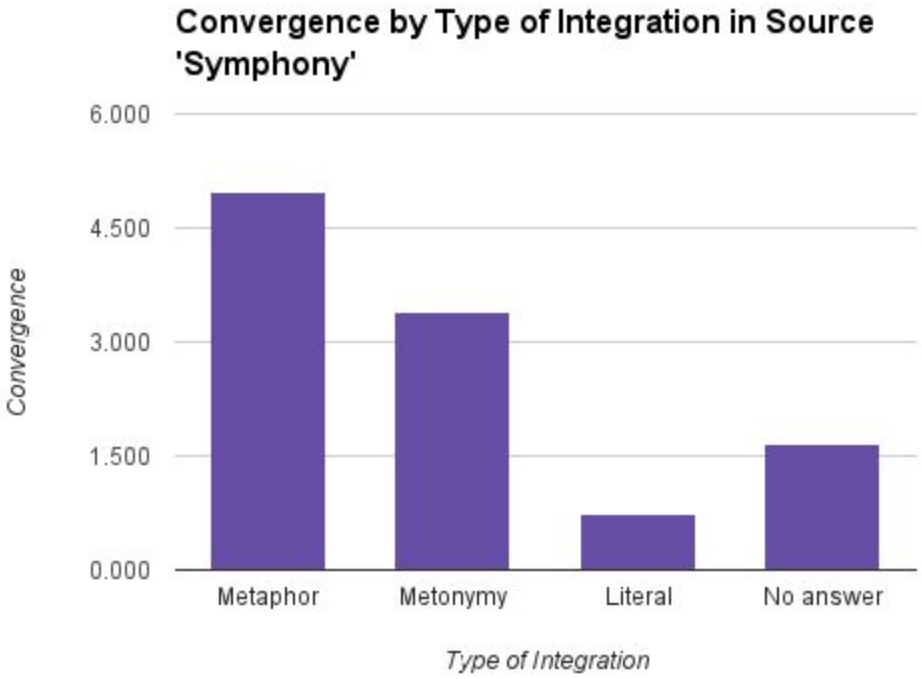


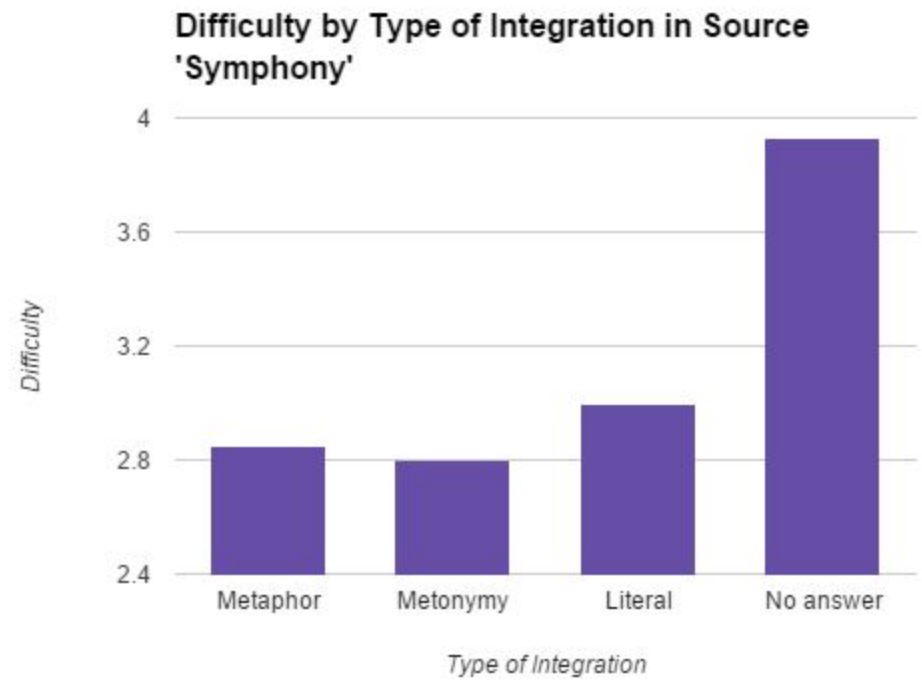
Domains Sanctioned in "This movie is a symphony"




Domains Sanctioned in "This dinner is a symphony"
Joy
Good quality
Organization
Complexity
Harmony
bad quality
40%
40%
8%


Correlation between Difficulty and Concentration
5
3.75
2.5
1.25
0
1.421
1.512
2.014
2.082
2.149
2.507
2.517
3.735
4.535


Convergence by Type of Integration in Source 'Symphony'
6.000
4.500
3.000
1.500
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Symphony'
4
3.6
3.2
2.8
2.4
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.6. Source: Thorn

Table A.6.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This viper is a thorn	3.1	2.489	8
This trap is a thorn	3.4	2.539	9
This wedding is a thorn	2.64	2.646	5
This dinner is a thorn	2.2	2.82	6
This symphony is a thorn	2.3	3.545	5
This movie is a thorn	2.12	3.645	7
This joke is a thorn	2.28	4.541	6
This wife is a thorn	1.84	4.796	5
This memory is a thorn	1.74	9.22	4
TOTAL AVERAGE	**2.4**	**4.026**	**6.11**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with viper as source concept.

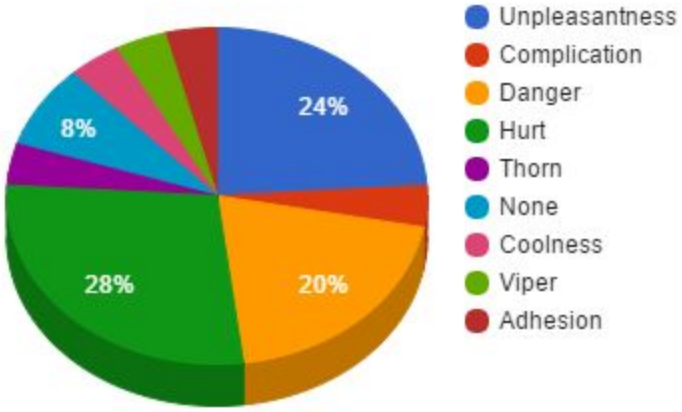
Table A.6.2

Difficulty by Types of Integration

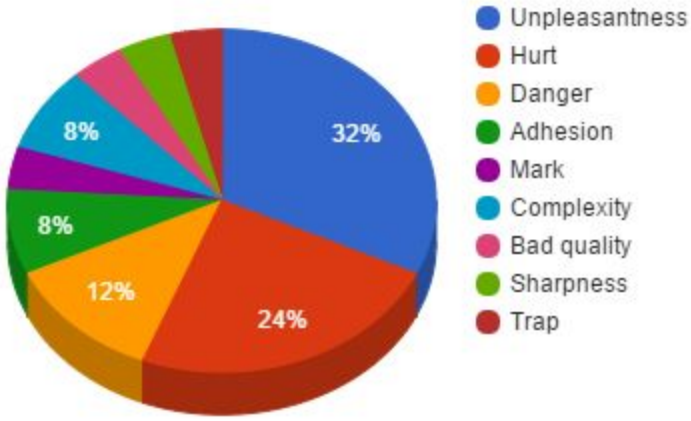
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This viper is a thorn	28%	3.71	56%	2.57	12%	3.33	4%	5
This trap is a thorn	52%	3.1	44%	3.7	4%	4	-	-
This wedding is a thorn	52%	2.7	48%	2.6	-	-	-	-
This dinner is a thorn	48%	1.5	44%	2.73	4%	2	4%	5
This symphony is a thorn	60%	2.6	34%	1.6	-	-	4%	5
This movie is a thorn	60%	2.27	40%	1.9	-		-	
This joke is a thorn	68%	2.06	24%	2.17	4%	4	4%	5
This wife is a thorn	68%	1.71	32%	2.13	-	-	-	-
This memory is a thorn	84%	1.71	12%	2	4%	2	-	-

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source viper.

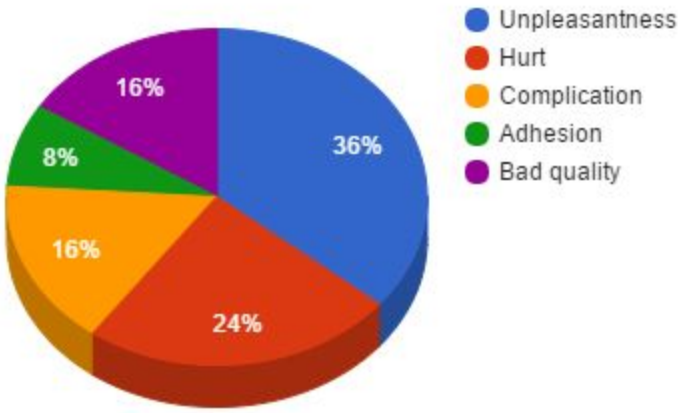
Domains Sanctioned in "This viper is a thorn"



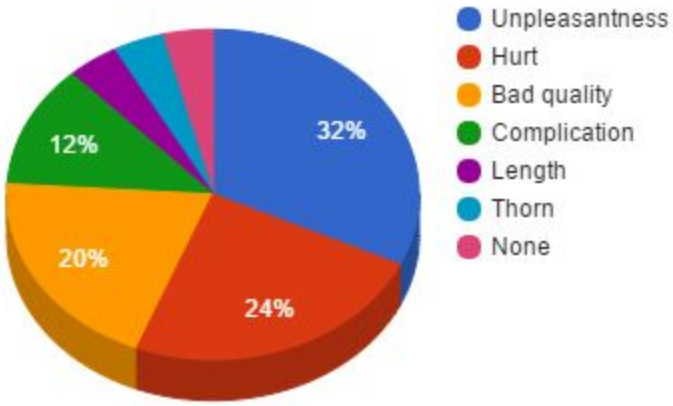
Domains Sanctioned in "This trap is a thorn"



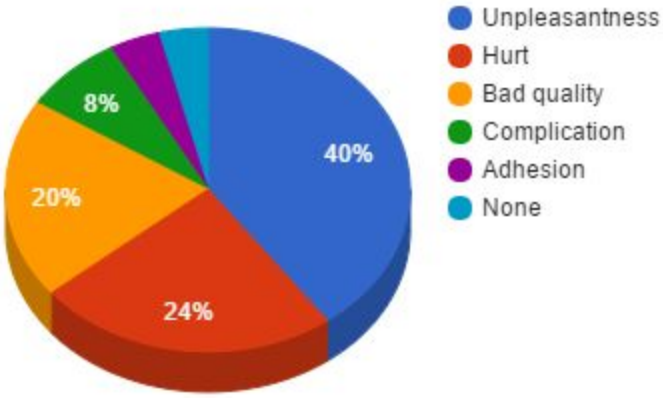
Domains Sanctioned in "This wedding is a thorn"



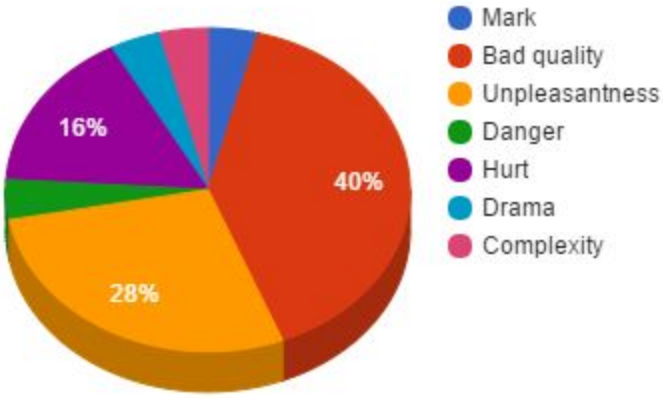
Domains Sanctioned in "This dinner is a thorn"

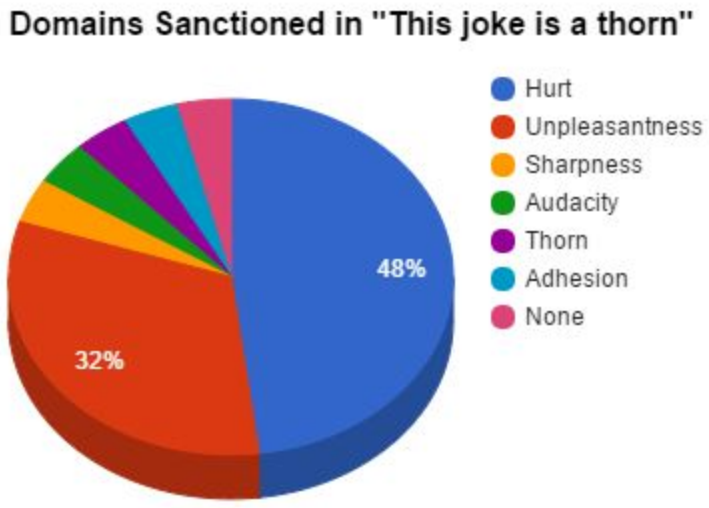


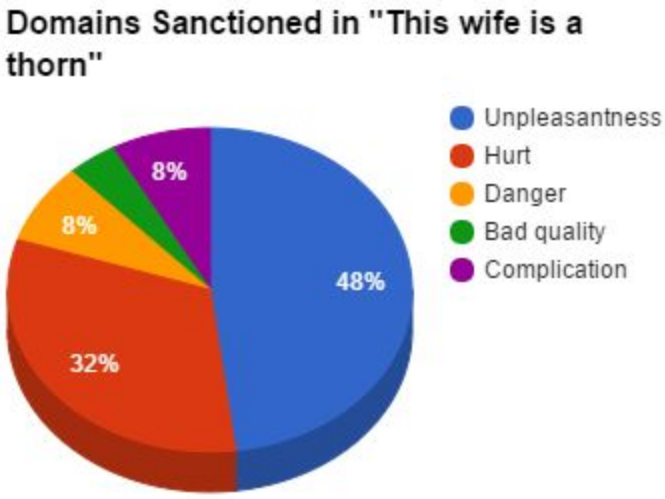
Domains Sanctioned in "This symphony is a thorn"

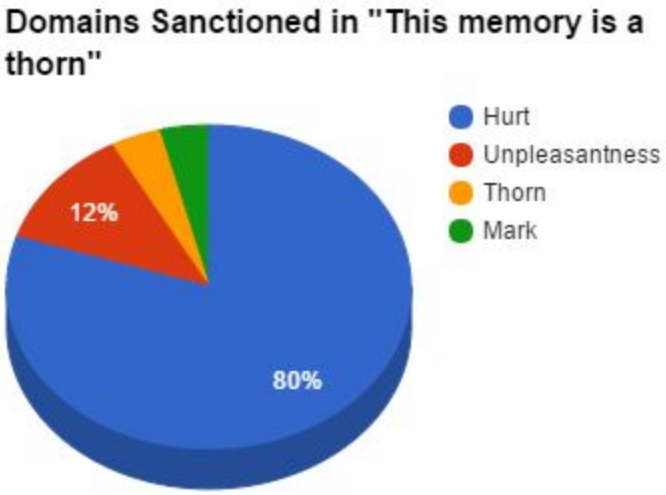


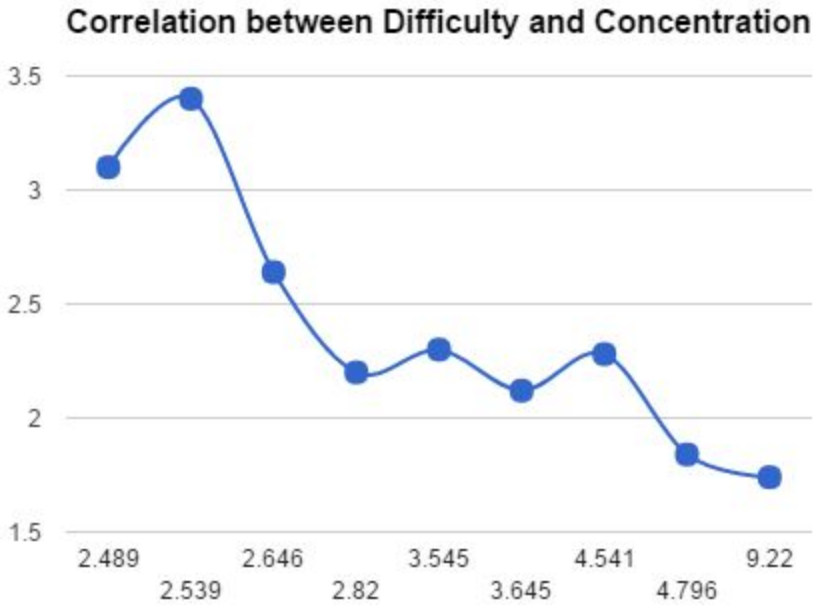
Domains Sanctioned in "This movie is a thorn"

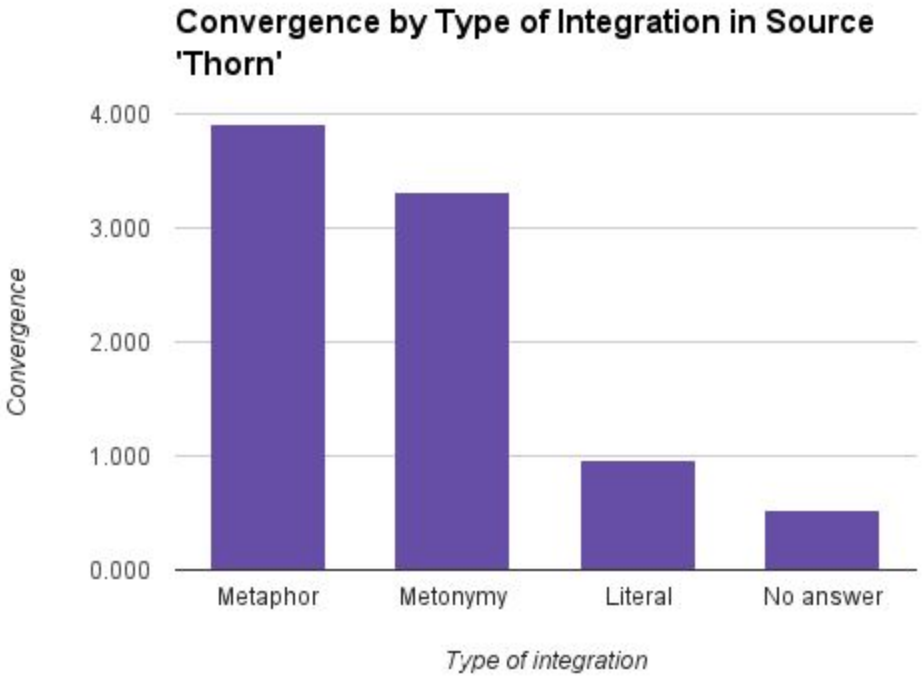


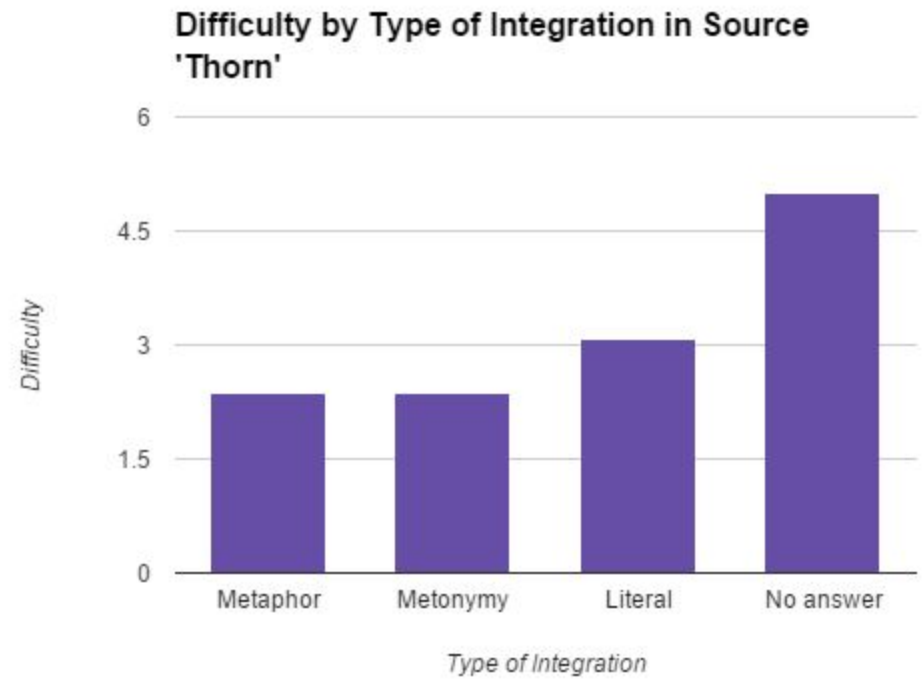

Domains Sanctioned in "This joke is a thorn"
Hurt
Unpleasantness
Sharpness
Audacity
Thorn
Adhesion
None
48%
32%


Domains Sanctioned in "This wife is a thorn"
Unpleasantness
Hurt
Danger
Bad quality
Complication
48%
32%
8%
8%


Domains Sanctioned in "This memory is a thorn"
Hurt
Unpleasantness
Thorn
Mark
12%
80%


Correlation between Difficulty and Concentration
3.5
3
2.5
2
1.5
2.489
2.539
2.646
2.82
3.545
3.645
4.541
4.796
9.22


Convergence by Type of Integration in Source 'Thorn'
4.000
3.000
2.000
1.000
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of integration


Difficulty by Type of Integration in Source 'Thorn'
6
4.5
3
1.5
0
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.7. Source: Trap

Table A.7.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This memory is a trap	2.44	1.443	12
This movie is a trap	2.16	2.37	7
This thorn is a trap	3.8	2.489	8
This symphony is a trap	2.92	2.642	8
This wife is a trap	2.2	2.875	12
This viper is a trap	2.96	3.719	9
This wedding is a trap	2.04	3.817	6
This joke is a trap	2.56	4.062	10
This dinner is a trap	2.64	6.338	6
TOTAL AVERAGE	**2.37**	**3.306**	**8.66**

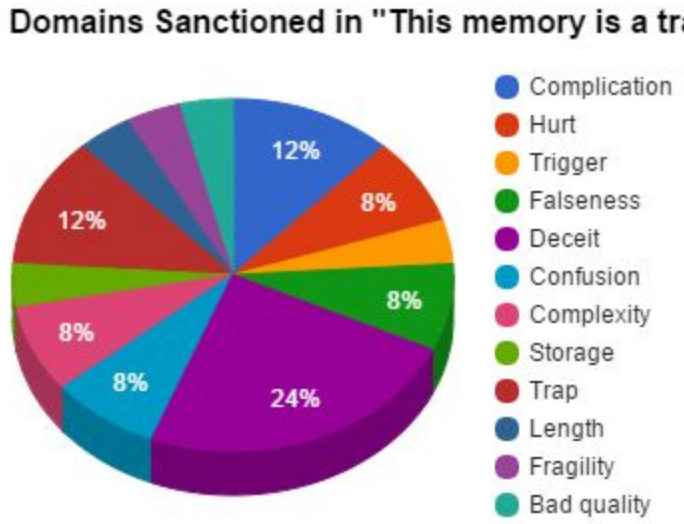
Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with trap as source concept.

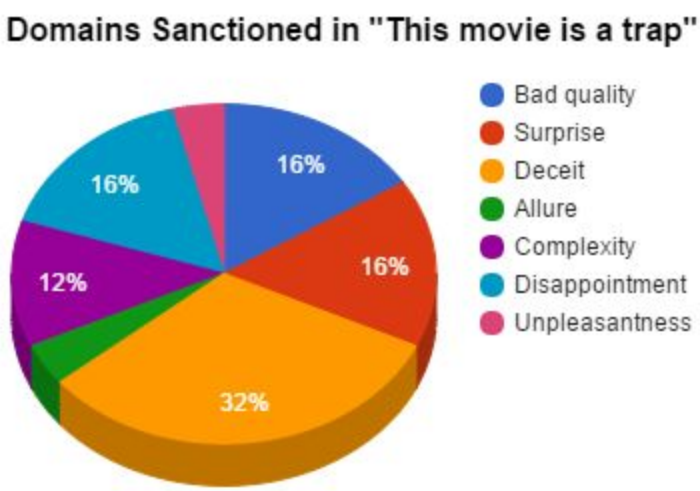
Table A.7.2

Difficulty by Types of Integration

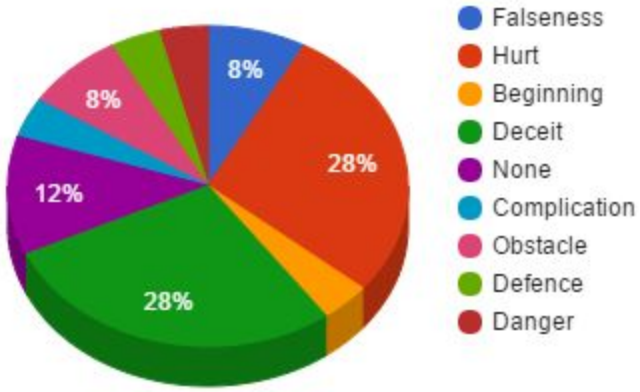
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This memory is a trap	36%	2.78	52%	2.15	12%	2.67	-	-
This movie is a trap	88%	2.05	12%	3	-	-	-	-
This thorn is a trap	12%	4	76%	3.63	-	4.67	12%	
This symphony is a trap	32%	2.13	68%	3.29	-	-	-	-
This wife is a trap	32%	2.13	68%	2.24	-	-	-	-
This viper is a trap	40%	3.1	40%	2.8	12%	3	8%	3
This wedding is a trap	76%	1.84	4%	1	20%	3	-	-
This joke is a trap	64%	2.31	28%	2.86	8%	3.5	-	-
This dinner is a trap	88%	2.64	12%	2.67	-	-	-	-

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source trap.

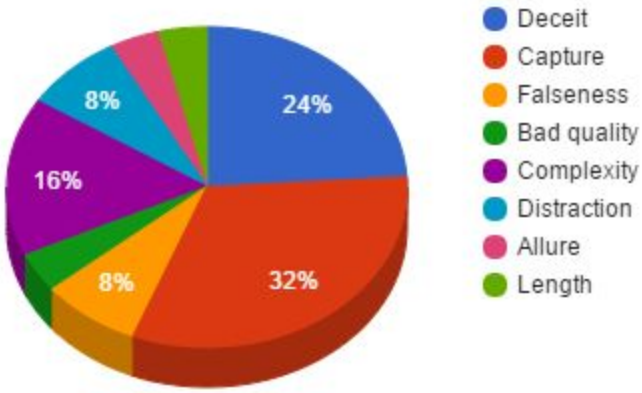

Domains Sanctioned in "This memory is a trap"
12%
8%
8%
24%
8%
8%
12%
Complication
Hurt
Trigger
Falseness
Deceit
Confusion
Complexity
Storage
Trap
Length
Fragility
Bad quality

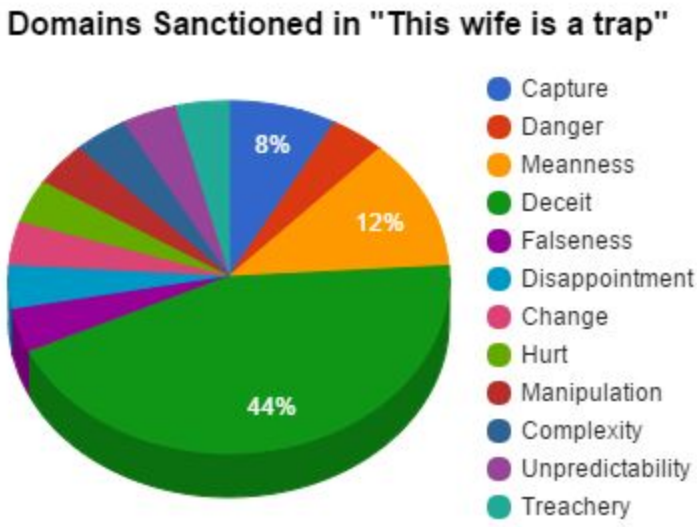

Domains Sanctioned in "This movie is a trap"
16%
16%
32%
12%
16%
Bad quality
Surprise
Deceit
Allure
Complexity
Disappointment
Unpleasantness

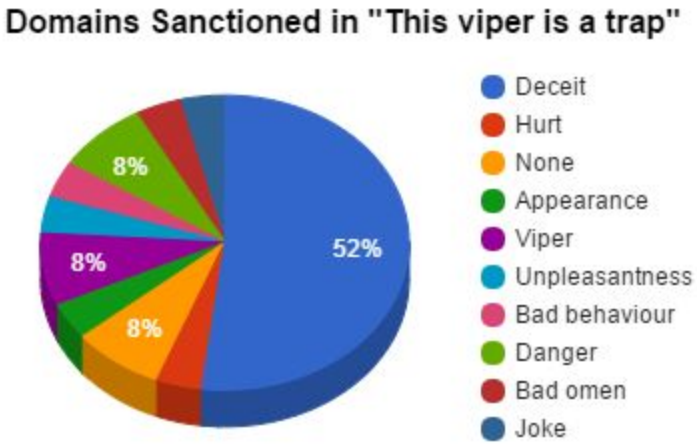
Domains Sanctioned in "This thorn is a trap"

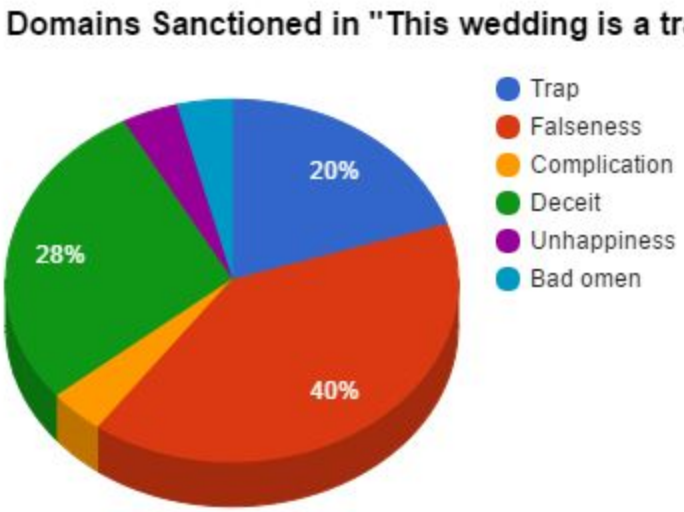


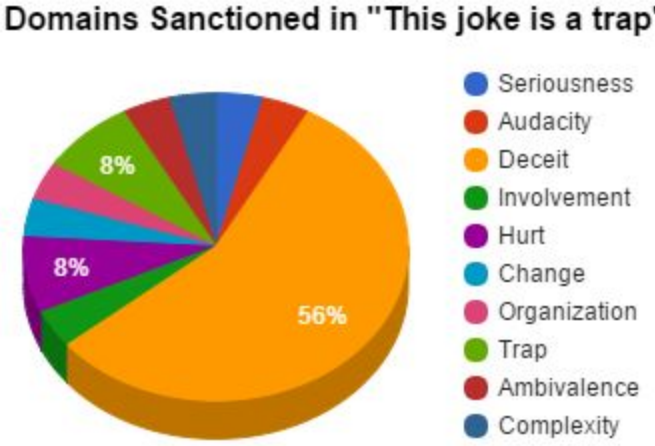
Domains Sanctioned in "This symphony is a trap"

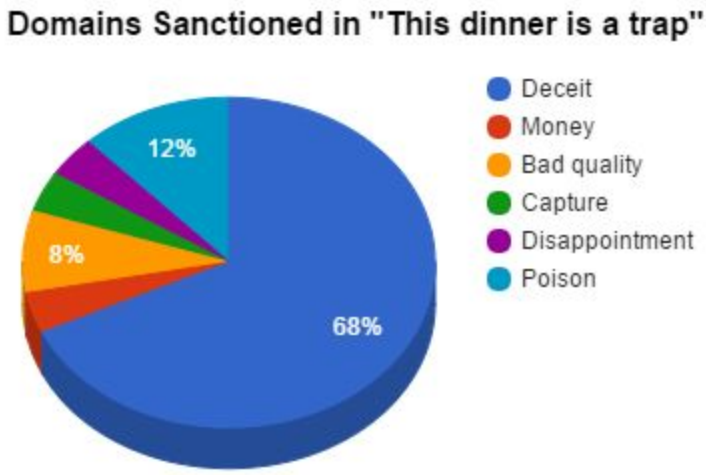


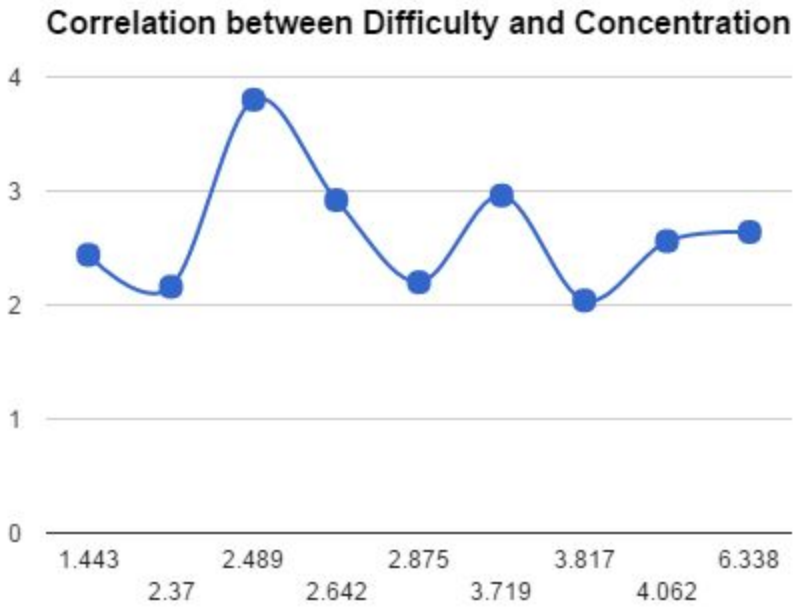

Domains Sanctioned in "This wife is a trap"
8%
12%
44%
Capture
Danger
Meanness
Deceit
Falseness
Disappointment
Change
Hurt
Manipulation
Complexity
Unpredictability
Treachery

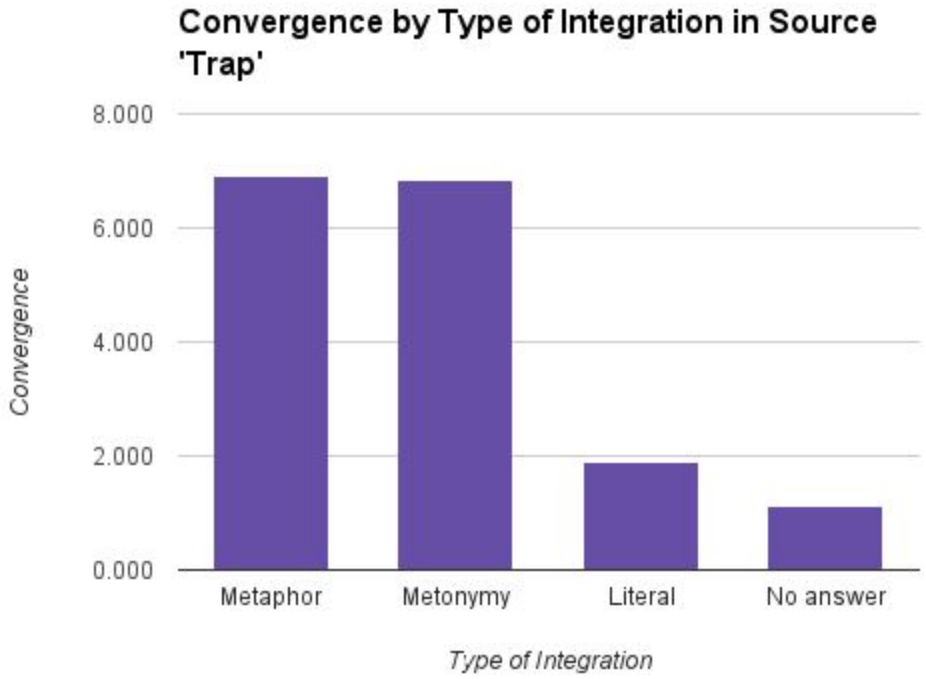

Domains Sanctioned in "This viper is a trap"
52%
8%
8%
8%
Deceit
Hurt
None
Appearance
Viper
Unpleasantness
Bad behaviour
Danger
Bad omen
Joke

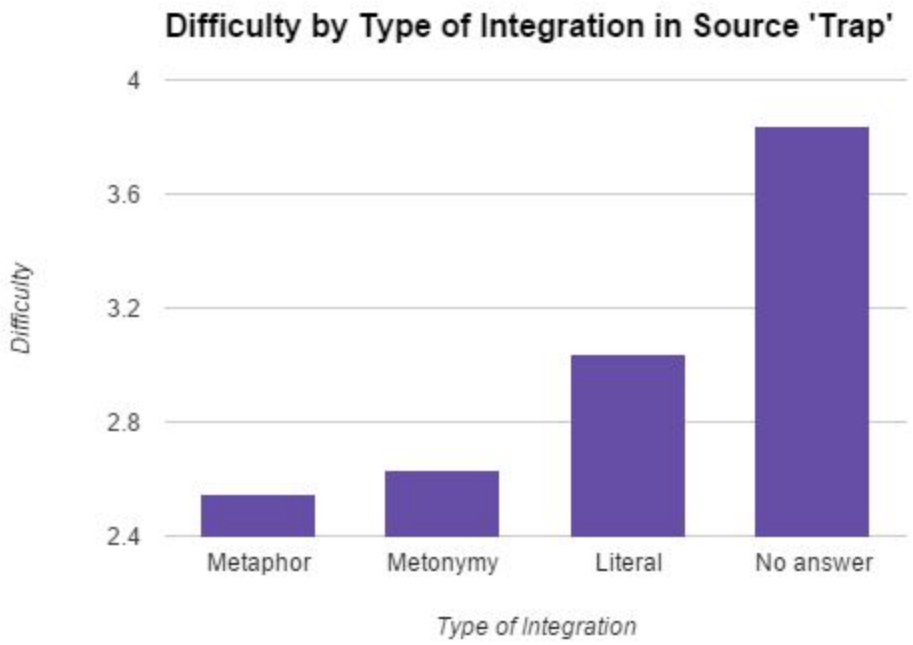

Domains Sanctioned in "This wedding is a trap"
Trap
Falseness
Complication
Deceit
Unhappiness
Bad omen
20%
40%
28%


Domains Sanctioned in "This joke is a trap"
Seriousness
Audacity
Deceit
Involvement
Hurt
Change
Organization
Trap
Ambivalence
Complexity
56%
8%
8%


Domains Sanctioned in "This dinner is a trap"
Deceit
Money
Bad quality
Capture
Disappointment
Poison
12%
8%
68%


Correlation between Difficulty and Concentration
4
3
2
1
0
1.443
2.37
2.489
2.642
2.875
3.719
3.817
4.062
6.338


Convergence by Type of Integration in Source 'Trap'
8.000
6.000
4.000
2.000
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Trap'
4
3.6
3.2
2.8
2.4
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.8. Source: Viper

Table A.8.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This symphony is a viper	3.72	0.814	15
This wedding is a viper	3.24	0.975	13
This movie is a viper	3.36	1.311	12
This memory is a viper	2.56	2.273	9
This trap is a viper	3.52	2.415	10
This joke is a viper	2.84	2.863	8
This dinner is a viper	3.27	2.942	10
This thorn is a viper	2.88	3.24	9
This wife is a viper	1.52	5.958	5
TOTAL AVERAGE	**2.99**	**2.532**	**10.11**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with symphony as source concept.

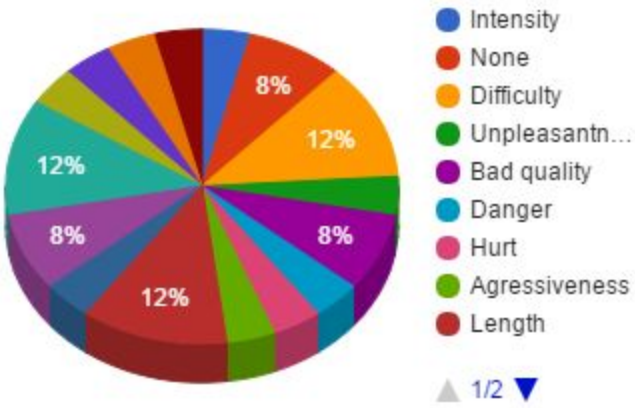
Table A.8.2

Difficulty by Types of Integration

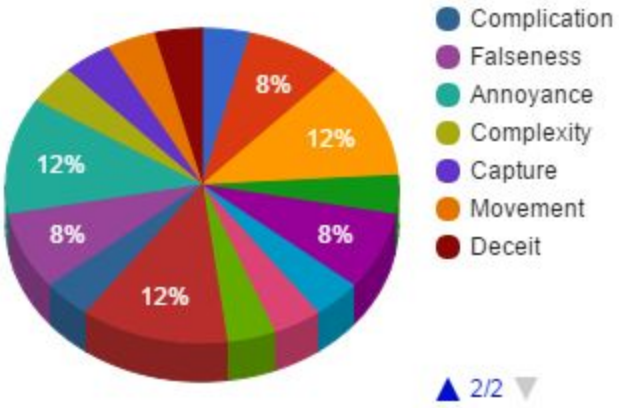
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This symphony is a viper	56%	3.5	36%	3.8	-	-	8%	5
This wedding is a viper	64%	3	24%	3	-	-	12%	5
This movie is a viper	64%	3.31	32%	3.38	4%	4	-	-
This trap is a viper	24%	3.67	76%	3.67	-	-	-	-
This joke is a viper	52%	2.46	36%	3.1	-	-	12%	2.67
This memory is a viper	36%	2.3	56%	2.6	4%	2	-	-
This dinner is a viper	40%	3.5	52%	2.92	8%	3.5	4%	5
This thorn is a viper	20%	3.4	76%	2.84	4%	1	-	-
This wife is a viper	80%	1.55	20%	1.4	-	-	-	-

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source symphony.

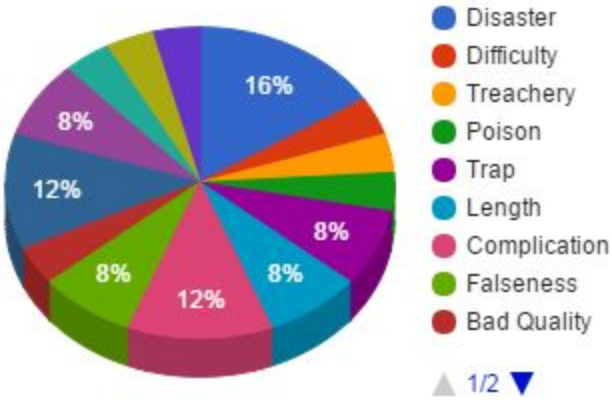
Domains Sanctioned in "This symphony is a viper" (1 of 2)



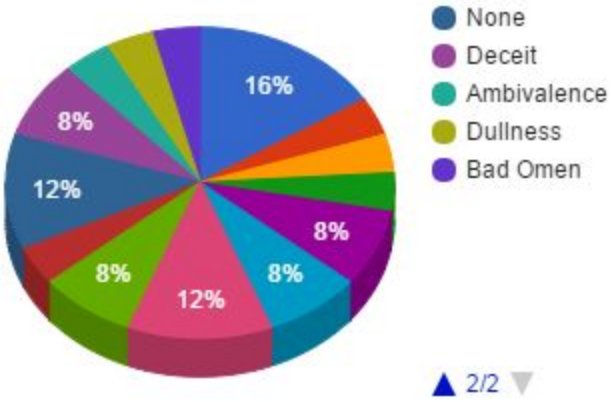
Domains Sanctioned in "This symphony is a viper" (2 of 2)



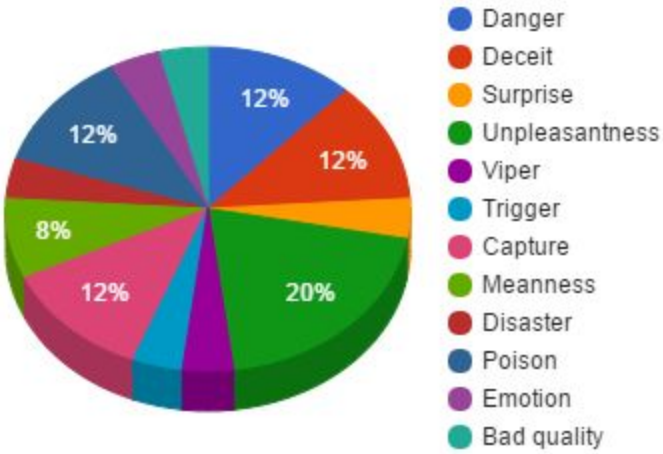
Domains Sanctioned in "This wedding is a viper" (1 of 2)



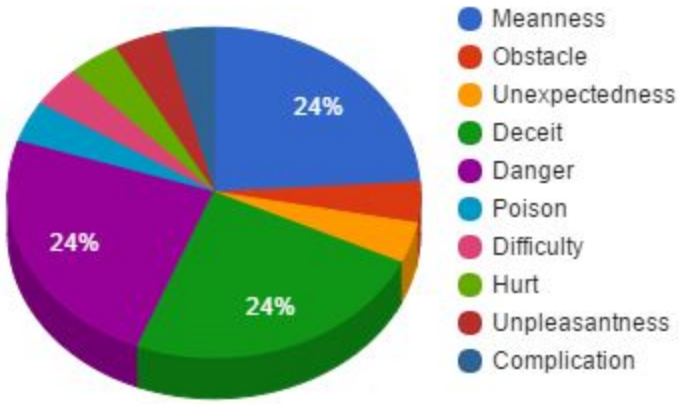
Domains Sanctioned in "This wedding is a viper" (2 of 2)



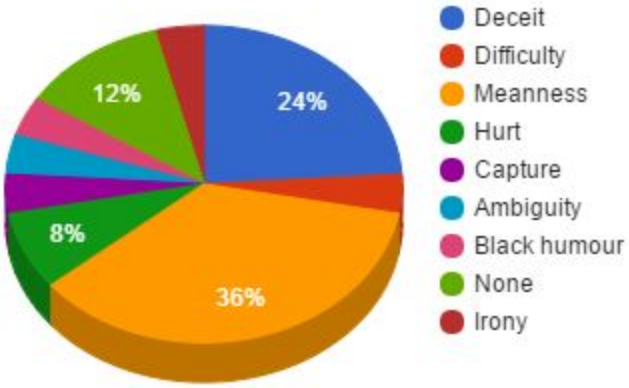
Domains Sanctioned in "This movie is a viper"



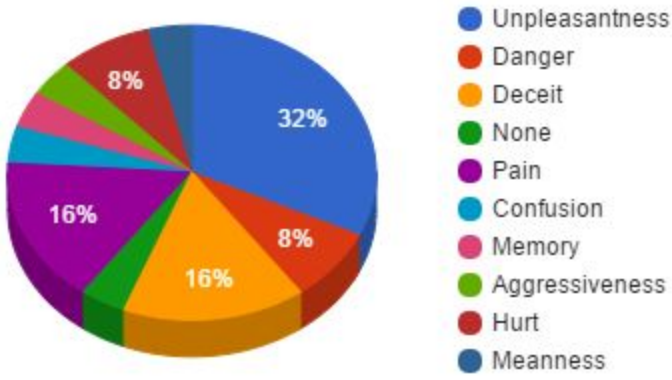
Domains Sanctioned in "This trap is a viper"



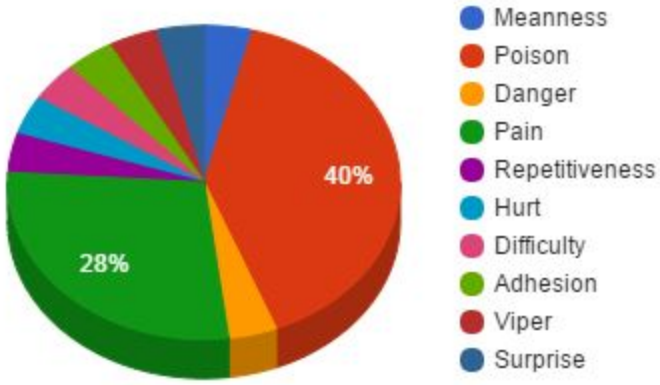
Domains Sanctioned in "This joke is a viper"



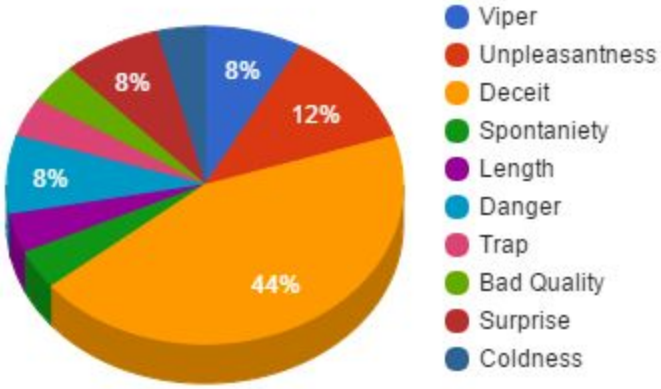
Domains Sanctioned in "This memory is a viper"

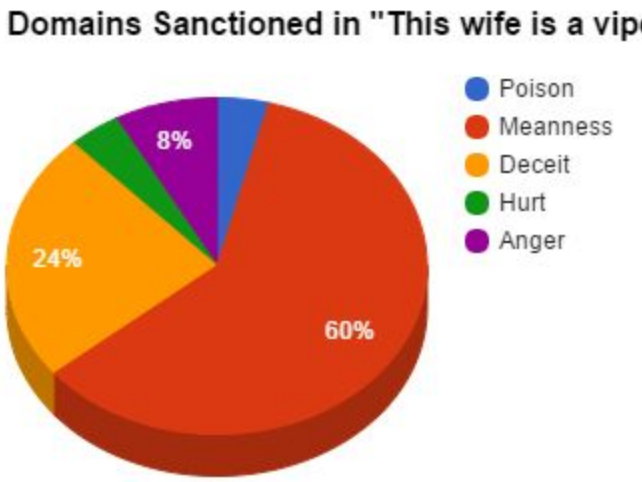


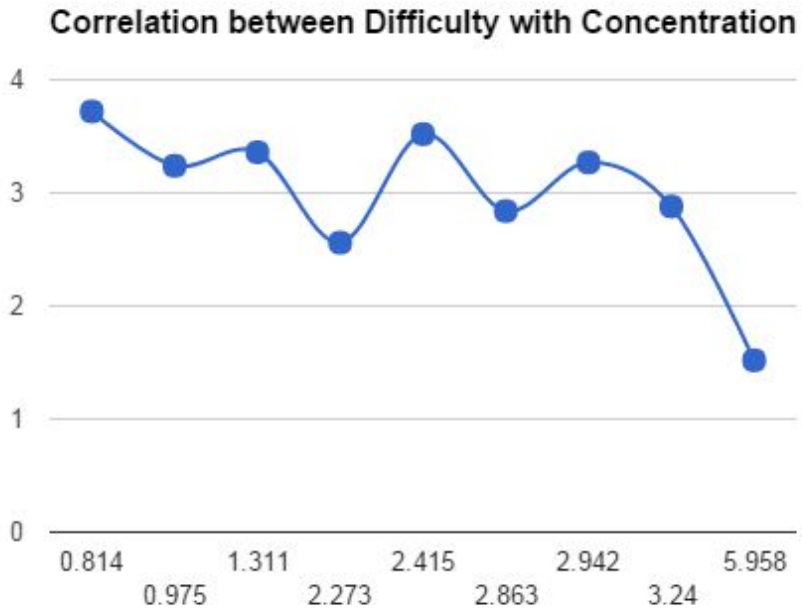
Domains Sanctioned in "This thorn is a viper"

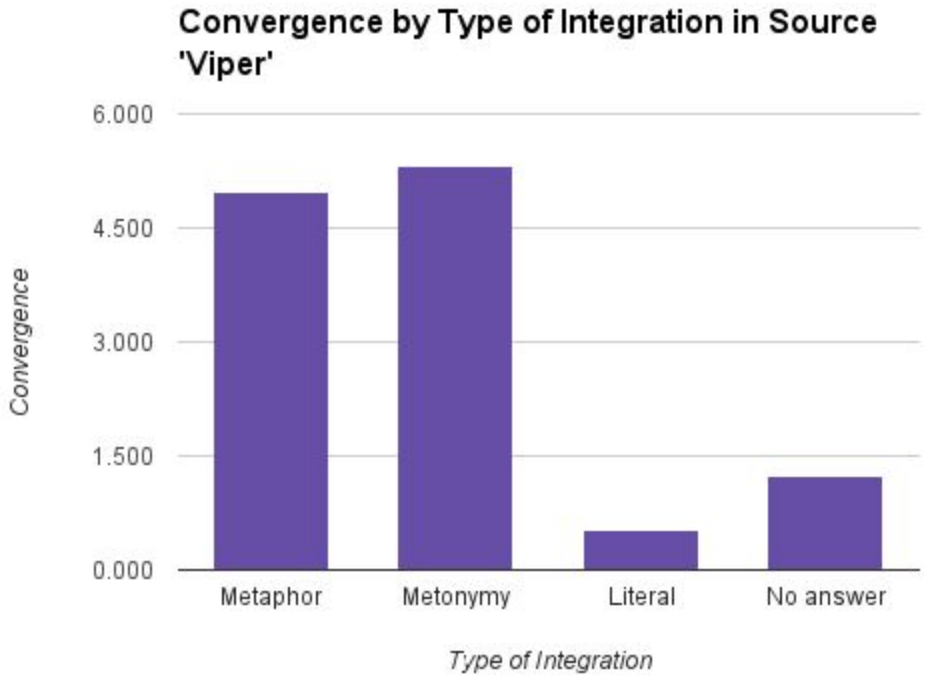


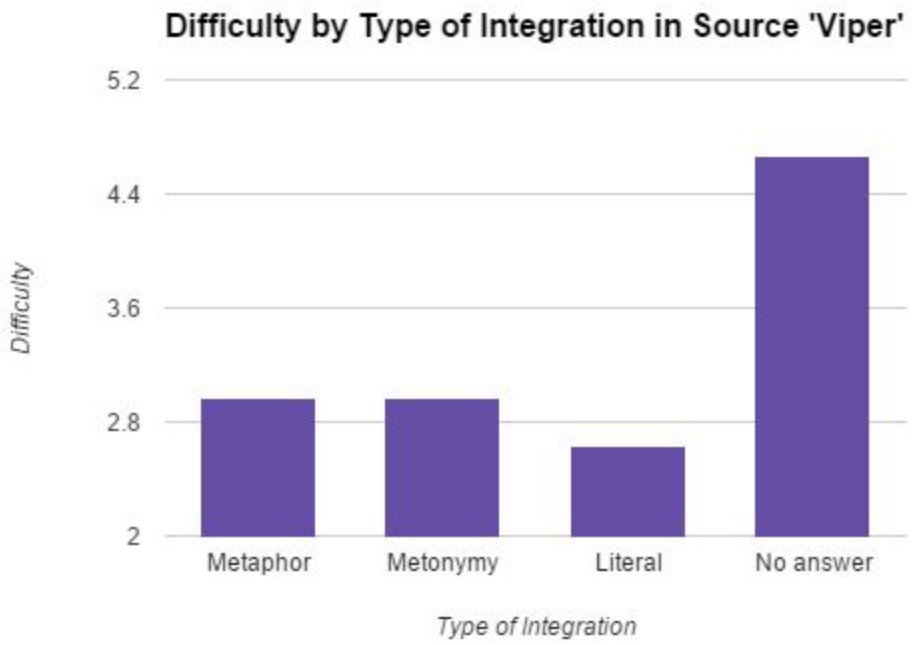
Domains Sanctioned in "This dinner is a viper"




Domains Sanctioned in "This wife is a viper"
Poison
Meanness
Deceit
Hurt
Anger
8%
24%
60%


Correlation between Difficulty with Concentration
4
3
2
1
0
0.814
0.975
1.311
2.273
2.415
2.863
2.942
3.24
5.958


Convergence by Type of Integration in Source 'Viper'
6.000
4.500
3.000
1.500
0.000
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Viper'
5.2
4.4
3.6
2.8
2
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.9. Source: Wedding

Table A.9.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This symphony is a wedding	3.56	0.55	20
This viper is a wedding	3.8	0.874	16
This movie is a wedding	3.6	0.975	13
This wife is a wedding	4.2	1.281	16
This joke is a wedding	3.48	1.369	13
This dinner is a wedding	2.68	1.498	13
This memory is a wedding	3.4	1.716	9
This trap is a wedding	4	1.782	11
This thorn is a wedding	3.5	2.014	9
TOTAL AVERAGE	**3.6**	**1.34**	**13.33**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with wedding as source concept.

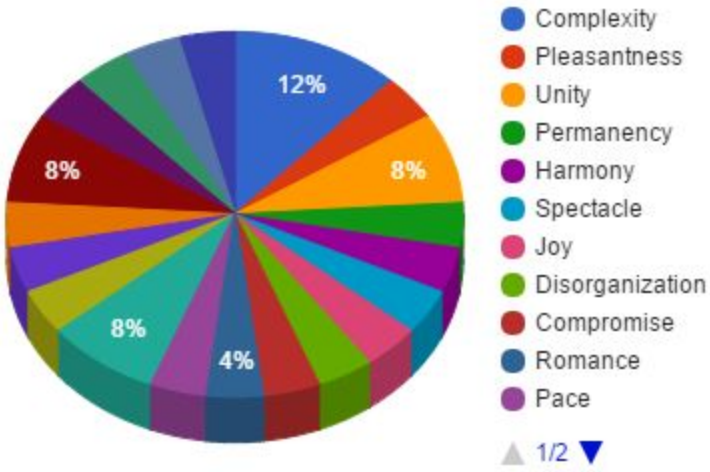
Table A.9.2

Difficulty by Types of Integration

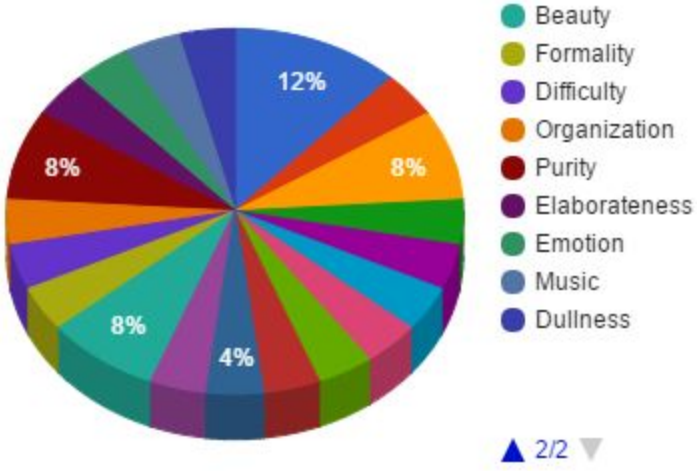
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This symphony is a wedding	40%	3.8	56%	3.5	4%	1	-	-
This viper is a wedding	56%	4.1	24%	3	4%	2	16%	5
This movie is a wedding	40%	3.5	40%	3.6	12%	4	8%	5
This wife is a wedding	36%	3.8	36%	4.3	4%	4	24%	4.7
This joke is a wedding	48%	3.2	32%	3.5	8%	4	12%	5
This dinner is a wedding	68%	2.6	12%	2.3	20%	3.2	-	-
This memory is a wedding	32%	3.1	32%	2.6	24%	2.7	12%	5
This trap is a wedding	32%	3.2	24%	3.7	20%	4.2	24%	4.7
This thorn is a wedding	32%	3.8	36%	3.9	8%	4	24%	5

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source wedding.

Domains Sanctioned in "This symphony is a wedding" (1 of 2)

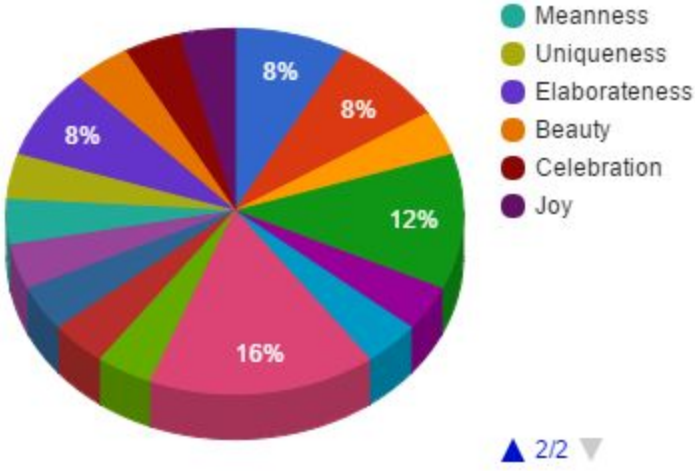


Domains Sanctioned in "This symphony is a wedding" (2 of 2)

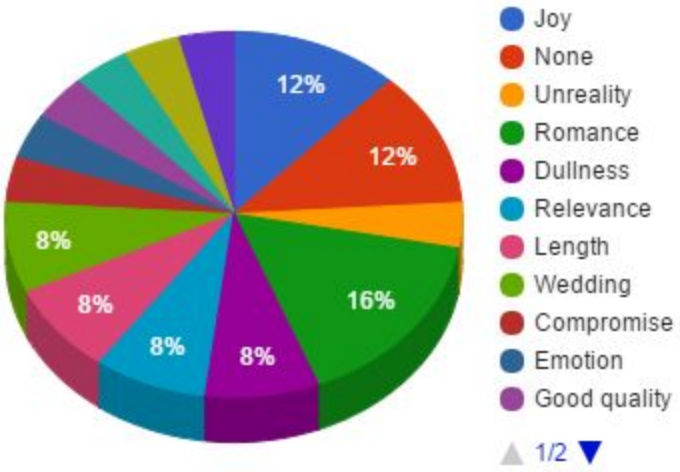


Domains Sanctioned in "This viper is a wedding" (1 of 2)

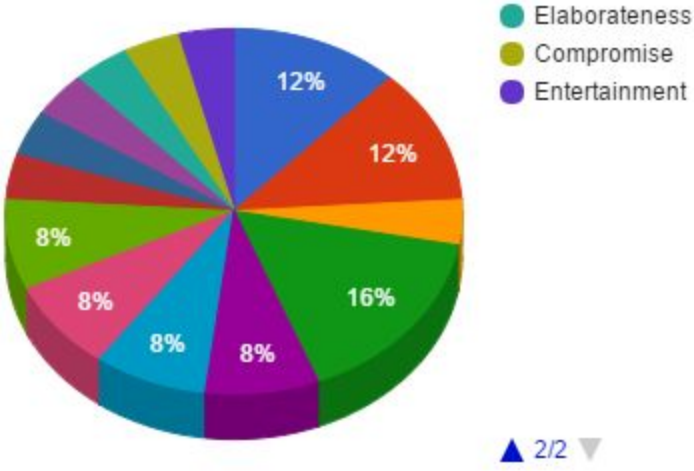
Domains Sanctioned in "This viper is a wedding" (2 of 2)



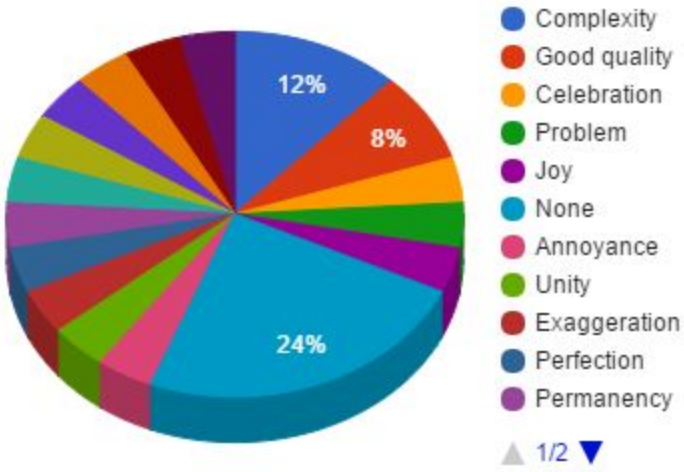
Domains Sanctioned in "This movie is wedding" (1 of 2)



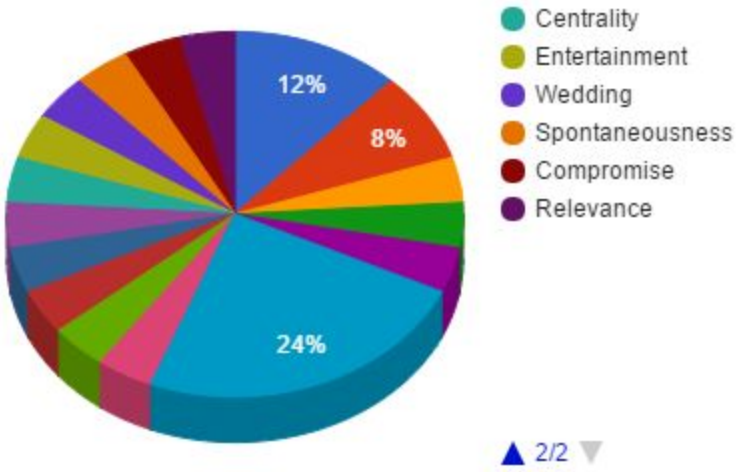
Domains Sanctioned in "This movie is wedding" (2 of 2)



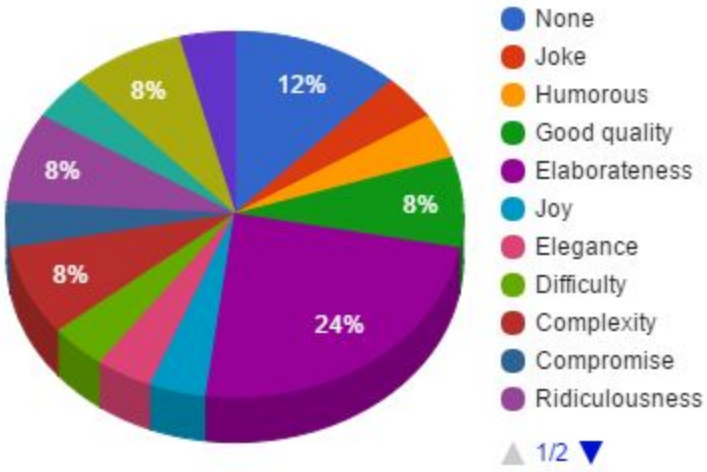
Domains Sanctioned in "This wife is a wedding" (1 of 2)



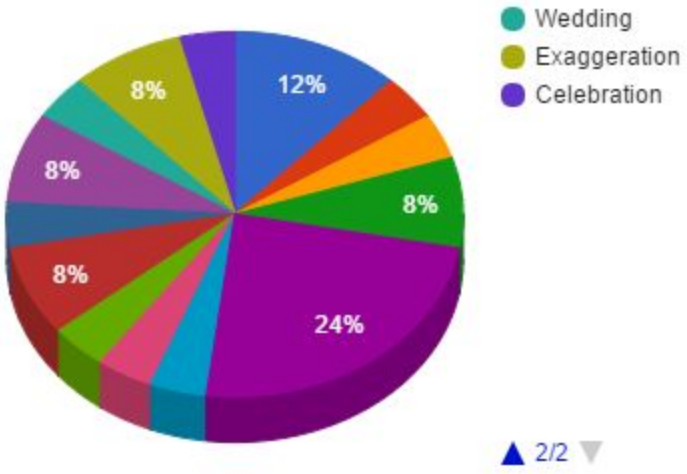
Domains Sanctioned in "This wife is a wedding" (2 of 2)



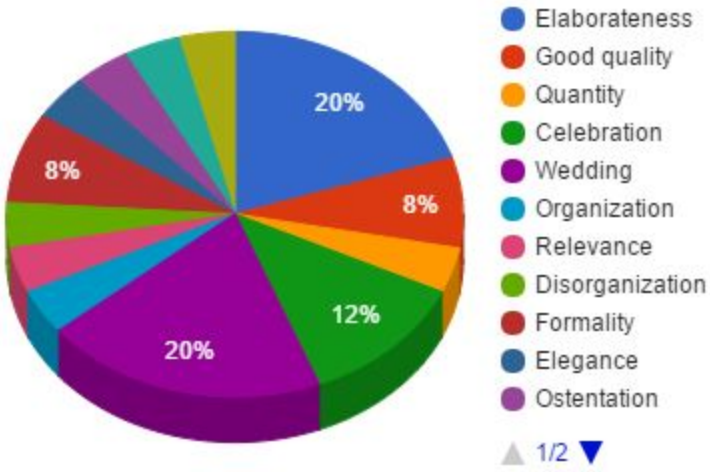
Domains Sanctioned in "This joke is a wedding" (1 of 2)



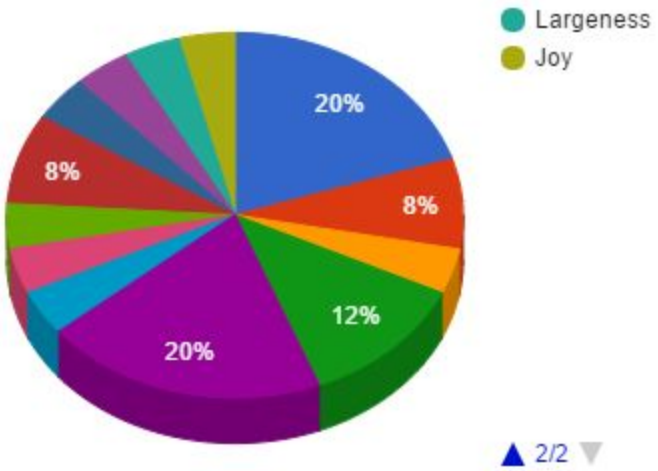
Domains Sanctioned in "This joke is a wedding" (2 of 2)



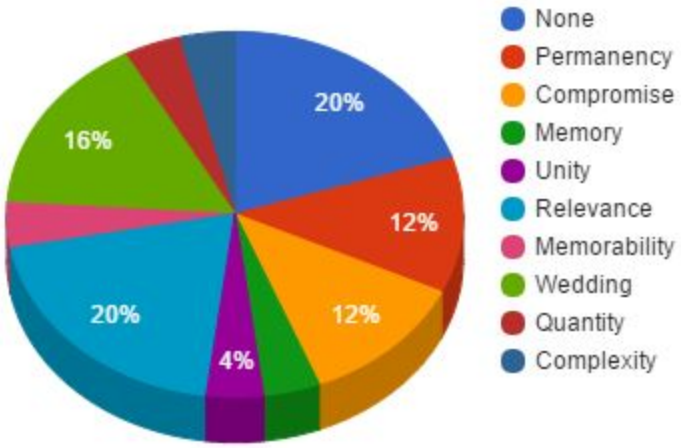
Domains Sanctioned in "This dinner is a wedding" (1 of 2)



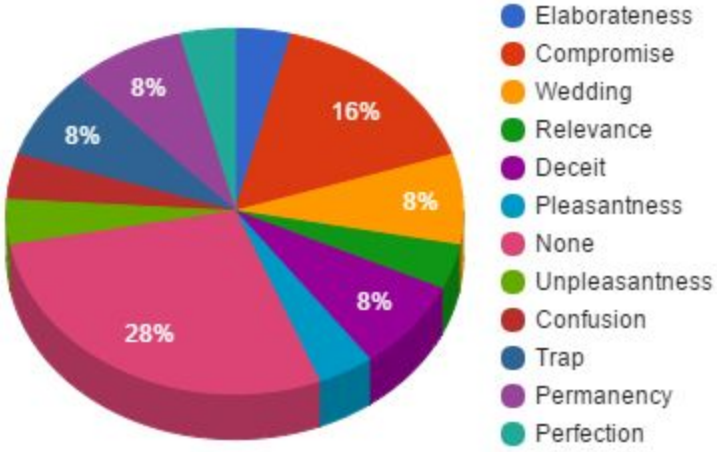
Domains Sanctioned in "This dinner is a wedding" (2 of 2)

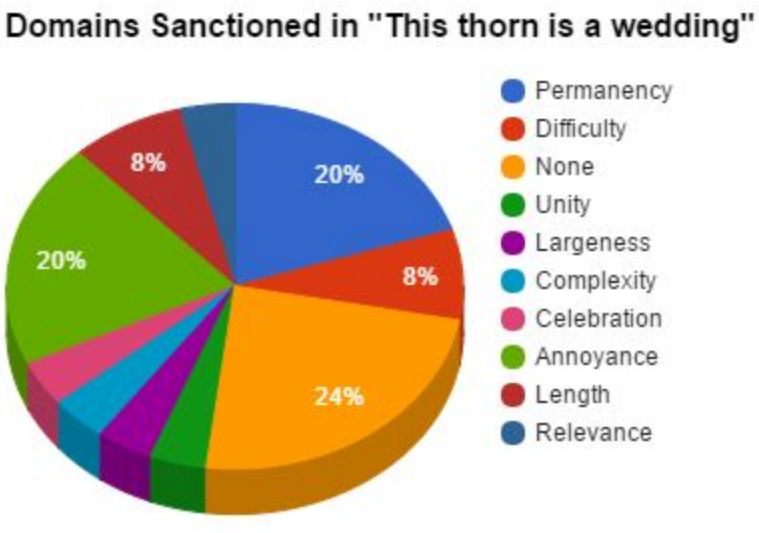


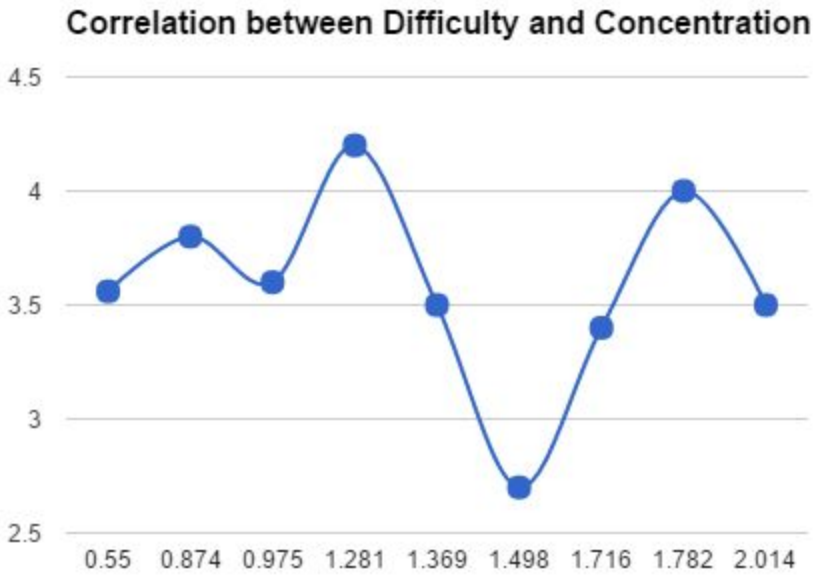
Domains Sanctioned in "This memory is a wedding"

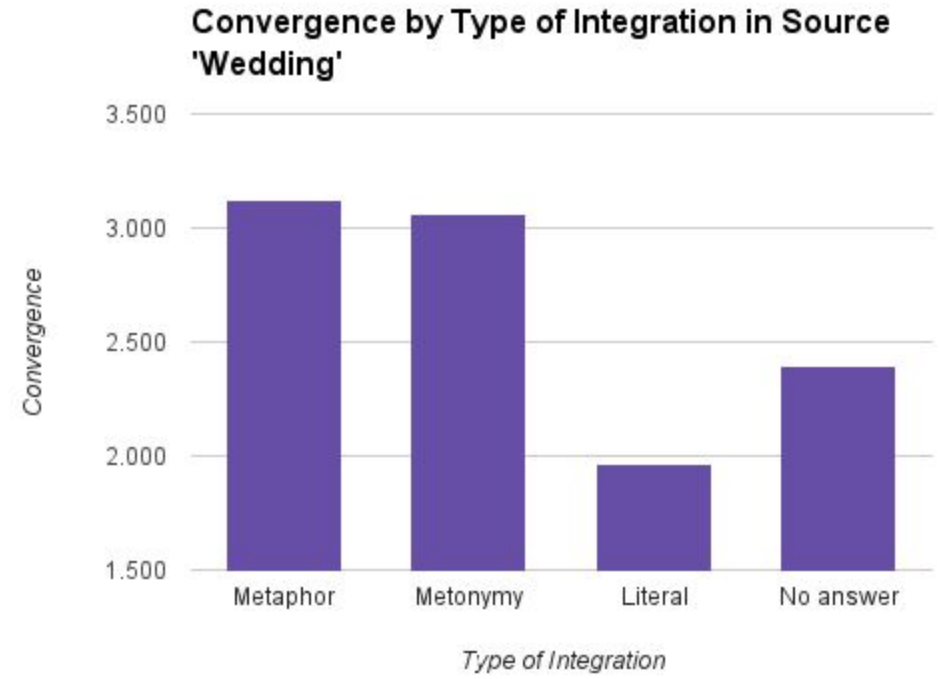


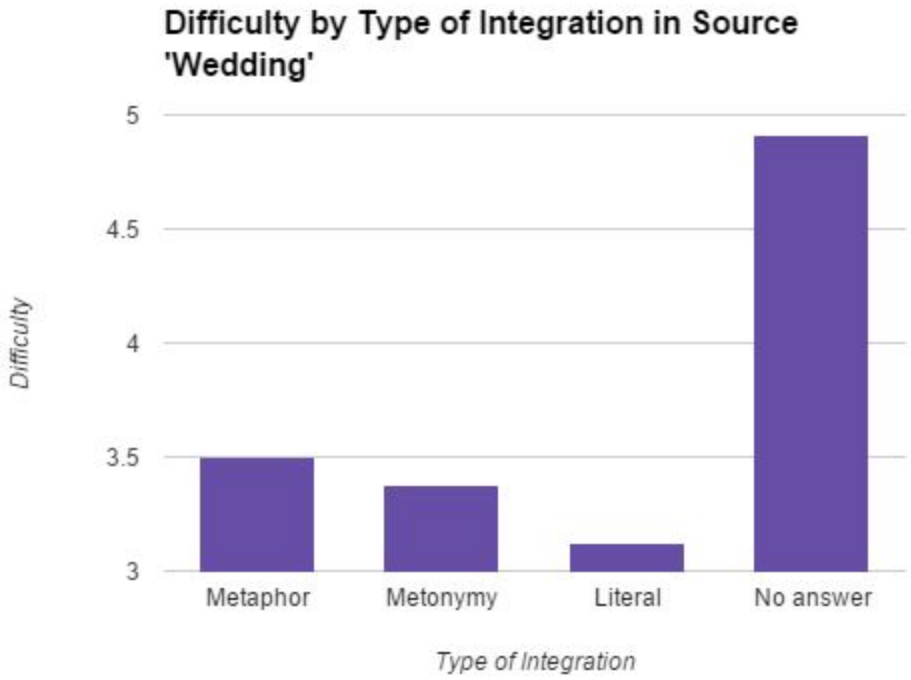
Domains Sanctioned in "This trap is a wedding"




Domains Sanctioned in "This thorn is a wedding"
20%
8%
24%
20%
8%
Permanency
Difficulty
None
Unity
Largeness
Complexity
Celebration
Annoyance
Length
Relevance


Correlation between Difficulty and Concentration
4.5
4
3.5
3
2.5
0.55
0.874
0.975
1.281
1.369
1.498
1.716
1.782
2.014


Convergence by Type of Integration in Source 'Wedding'
3.500
3.000
2.500
2.000
1.500
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Wedding'
5
4.5
4
3.5
3
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

1.10. Source: Wife

Table A.10.1

Difficulty, concentration of domains and number of domains sanctioned

Metaphor	Average Difficulty	Concentration	N° Domains
This thorn is a wife	3.4	1.421	10
This viper is a wife	3.2	1.543	14
This joke is a wife	3.8	1.618	10
This symphony is a wife	4.28	1.618	10
This wedding is a wife	3.64	1.626	13
This movie is a wife	3.68	2.224	9
This dinner is a wife	3.32	2.328	10
This trap is a wife	3.64	2.386	8
This memory is a wife	3.56	2.97	10
TOTAL AVERAGE	**3.25**	**1.97**	**10.44**

Note. Average difficulty, concentration of domains and number of domains sanctioned by each metaphor with symphony as source concept.

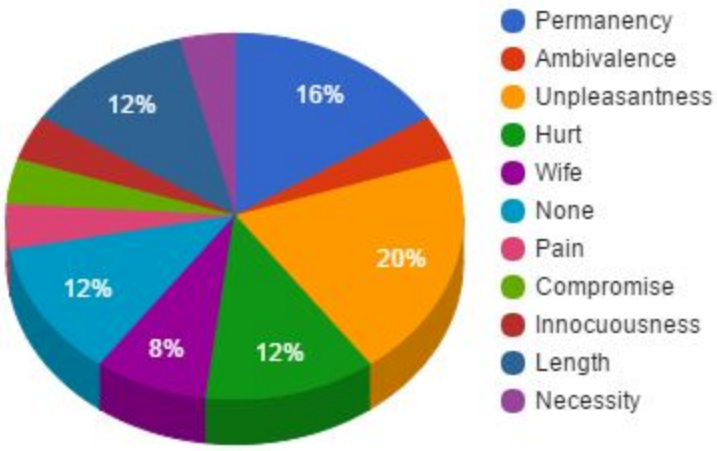
Table A.10.2

Difficulty by Types of Integration

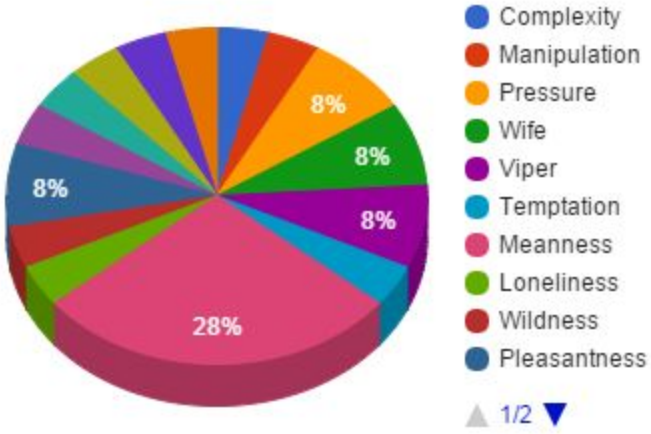
	Metaphor	Diff.	Metonymy	Diff.	Literal	Diff.	No Answer	Diff.
This thorn is a wife	84%	3.24	-	-	4%	2	12%	5
This viper is a wife	72%	3.28	12%	3.33	16%	3.25	-	-
This joke is a wife	68%	3.59	4%	4	12%	2	16%	5
This symphony is a wife	64%	4.25	12%	3.67	-	-	24%	4.67
This wedding is a wife	72%	3.72	20%	2.8	-	-	8%	5
This movie is a wife	56%	3.57	36%	3.67	-	-	8%	4.5
This dinner is a wife	72%	3.22	8%	2.5	8%	2.5	12%	5
This trap is a wife	68%	3.47	8%	3	4%	4	20%	4
This memory is a wife	76%	3.53	16%	3	4%	5	4%	5

Note. Percentage of use of each type of integration and average difficulty of the types of integration used with the source wife.

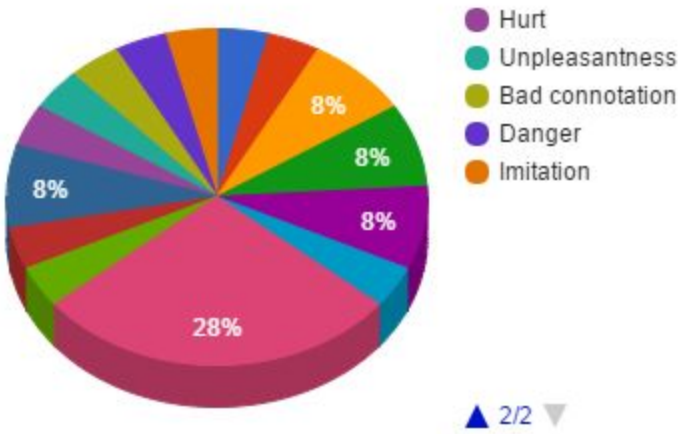
Domains Sanctioned in "This thorn is a wife"



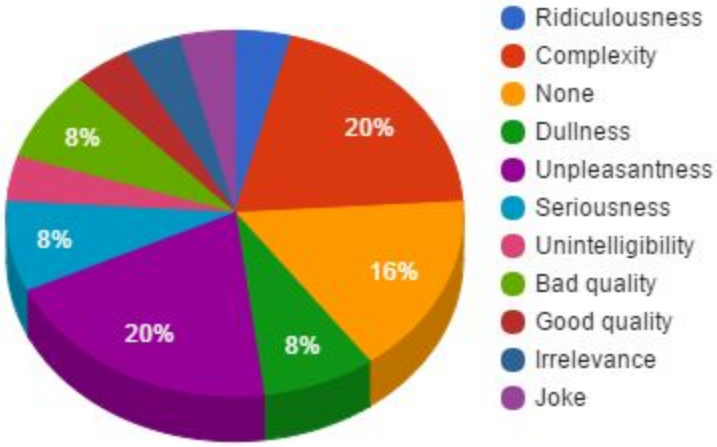
Domains Sanctioned in "This viper is a wife" (1 of 2)



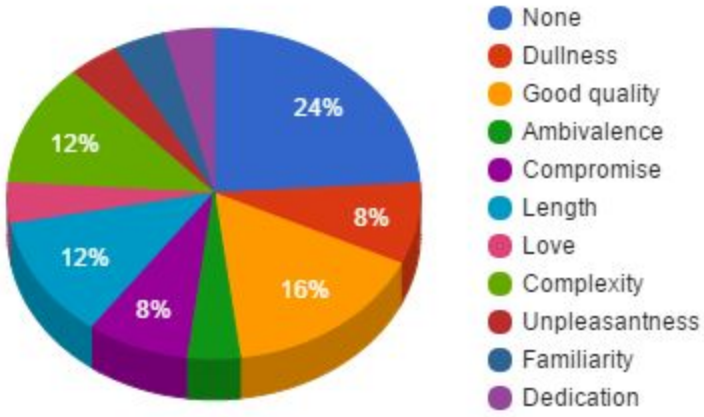
Domains Sanctioned in "This viper is a wife" (2 of 2)



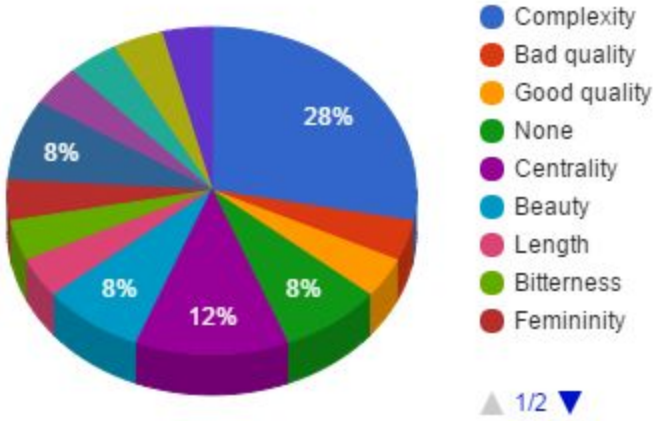
Domains Sanctioned in "This joke is a wife"



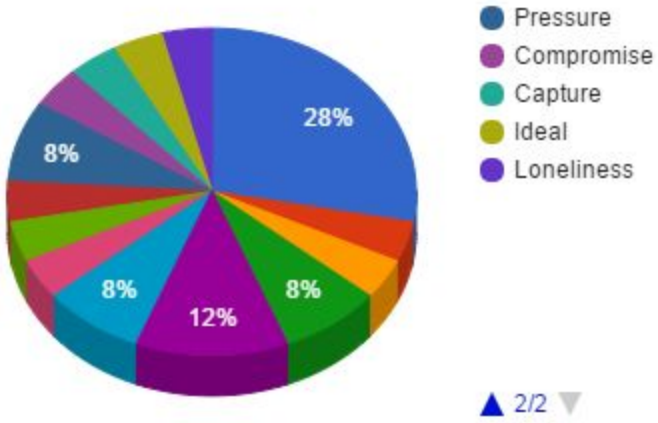
Domains Sanctioned in "This symphony is a wife"



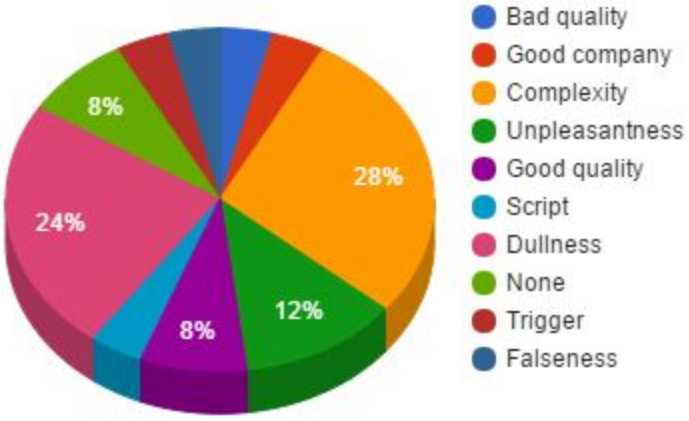
Domains Sanctioned in "This wedding is a wife" (1 of 2)

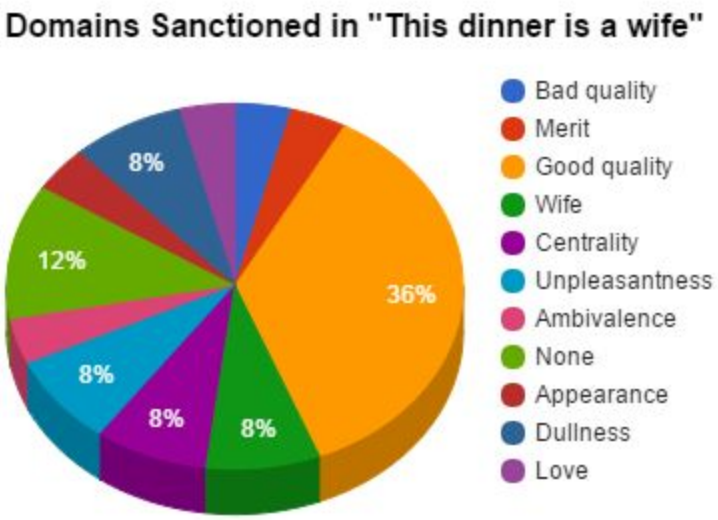


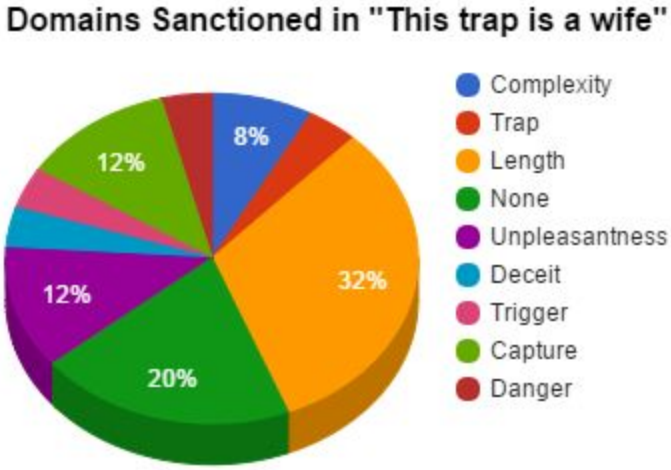
Domains Sanctioned in "This wedding is a wife" (2 of 2)

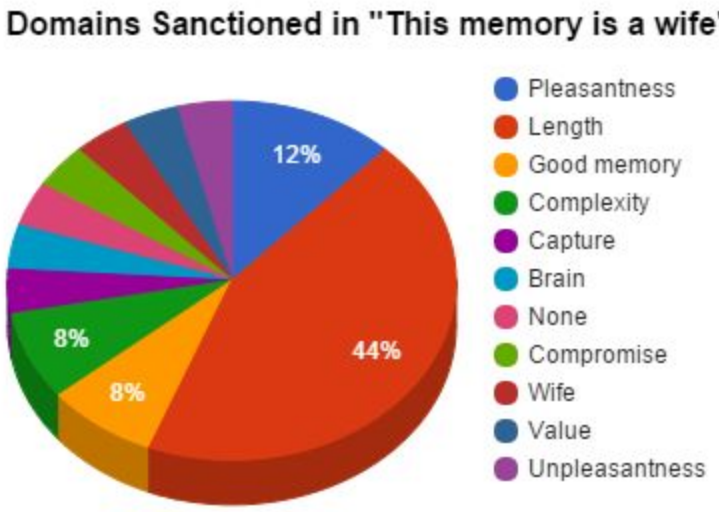


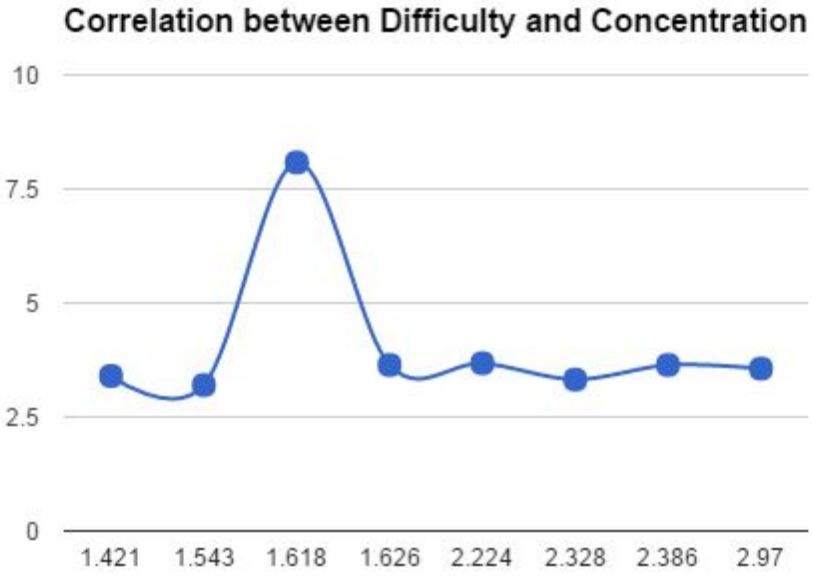
Domains Sanctioned in "This movie is a wife"

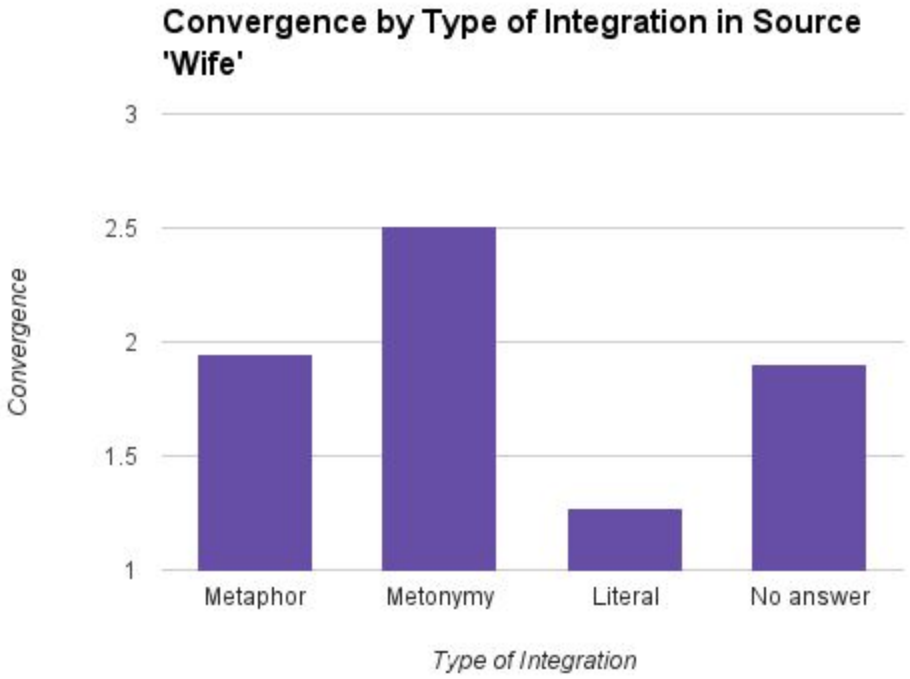


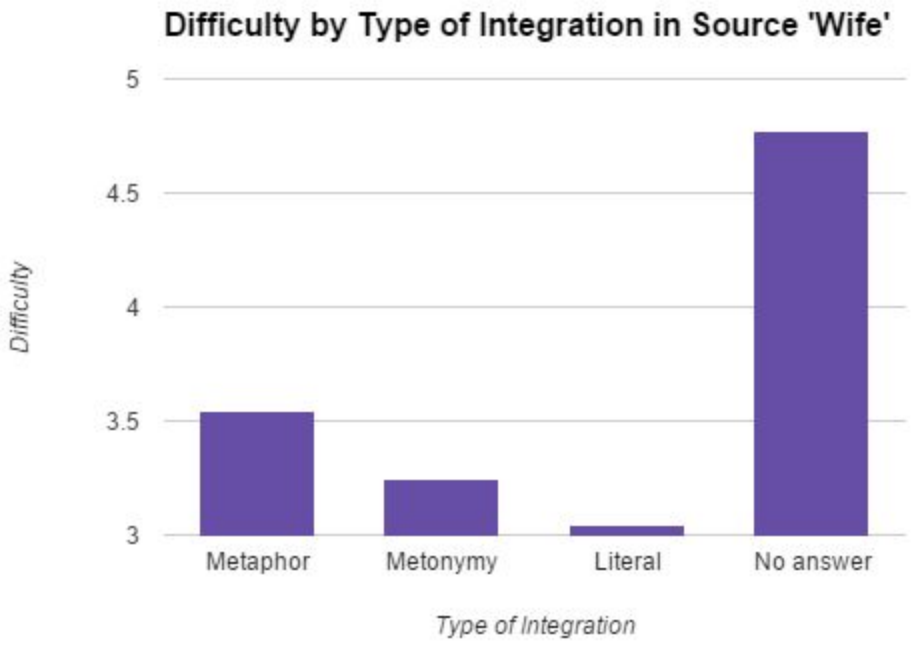

Domains Sanctioned in "This dinner is a wife"
Bad quality
Merit
Good quality
Wife
Centrality
Unpleasantness
Ambivalence
None
Appearance
Dullness
Love
8%
12%
36%
8%
8%
8%


Domains Sanctioned in "This trap is a wife"
Complexity
Trap
Length
None
Unpleasantness
Deceit
Trigger
Capture
Danger
8%
12%
32%
12%
20%


Domains Sanctioned in "This memory is a wife"
12%
44%
8%
8%
Pleasantness
Length
Good memory
Complexity
Capture
Brain
None
Compromise
Wife
Value
Unpleasantness


Correlation between Difficulty and Concentration
10
7.5
5
2.5
0
1.421
1.543
1.618
1.626
2.224
2.328
2.386
2.97


Convergence by Type of Integration in Source 'Wife'
3
2.5
2
1.5
1
Convergence
Metaphor
Metonymy
Literal
No answer
Type of Integration


Difficulty by Type of Integration in Source 'Wife'
5
4.5
4
3.5
3
Difficulty
Metaphor
Metonymy
Literal
No answer
Type of Integration

Appendix B: Data Analysis amongst Sources

The present appendix deals with data analysis amongst all source concepts. The bar charts show the association between sources and overall difficulty, and sources and overall concentration. The tables show all the cross concepts relations in terms of difficulty and convergence. The line graphs display mean concentration and mean difficulty by type of integration, followed by tables from which these values can be traced. Finally, two types of correlations are offered in two dispersion charts: one is the correlation between difficulty and concentration amongst sources, and the other the correlation between type of integration and difficulty amongst sources.

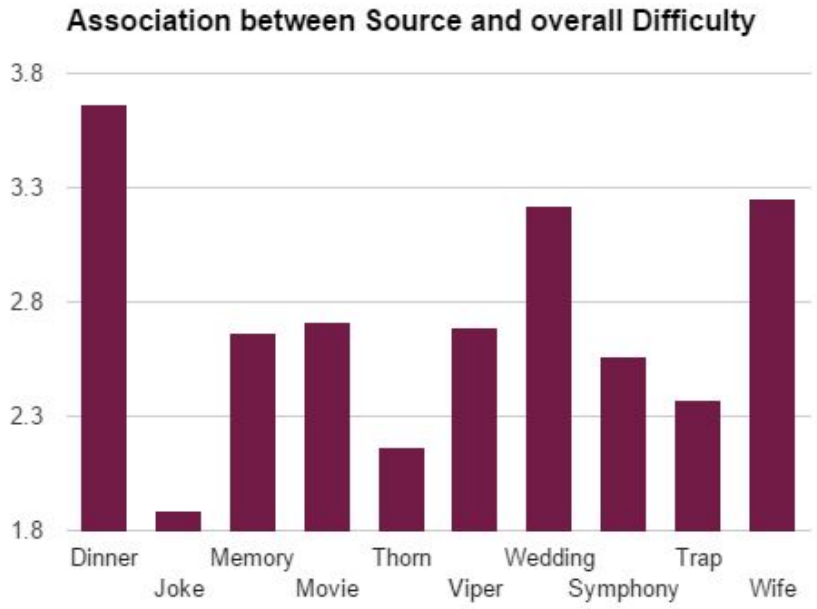


Table B.1.1

Average difficulty by source

	Sources									
Targets	Dinner	Joke	Memory	Movie	Thorn	Viper	Wedding	Symphony	Trap	Wife
Dinner	-	1.6	2.46	**3.6**	2.2	3.27	2.68	1.96	2.64	3.32
Joke	3.64	-	2.84	3.28	**2.28**	2.84	3.48	2.68	2.56	**3.8**
Memory	3.48	2.76	-	2.48	**1.74**	2.56	3.4	2.64	2.44	**3.56**
Movie	3.28	**1.84**	2.08	-	2.12	3.36	3.6	1.88	2.16	**3.68**
Thorn	3.92	**2.76**	3	4.04	-	2.88	3.5	**4.12**	3.8	3.4
Viper	**4.2**	**2.16**	3.24	3.28	3.1	-	3.8	4	2.96	3.2
Wedding	3.52	**1.84**	2.68	2.12	2.64	3.24	-	2.44	2.04	**3.64**
Symphony	2.96	**1.92**	3.36	2.6	2.3	3.72	3.56	-	2.92	**4.28**
Trap	**4.2**	**1.92**	3.64	2.72	3.4	3.52	4	3.32	-	3.64
Wife	3.76	2.08	3.32	3	1.84	1.52	**4.2**	2.57	2.2	-
AVERAGE DIFFICULTY	**3.662**	**1.888**	**2.662**	**2.712**	**2.162**	**2.691**	**3.222**	**2.561**	**2.372**	**3.252**

Note. Table B.1.1 presents the difficulty values of the source concepts with eachtarget concept and the global average of the source with all the targets. The numbers in red indicates the lowest difficulty value of a source and a target concept while the black values indicate the highest difficulty.

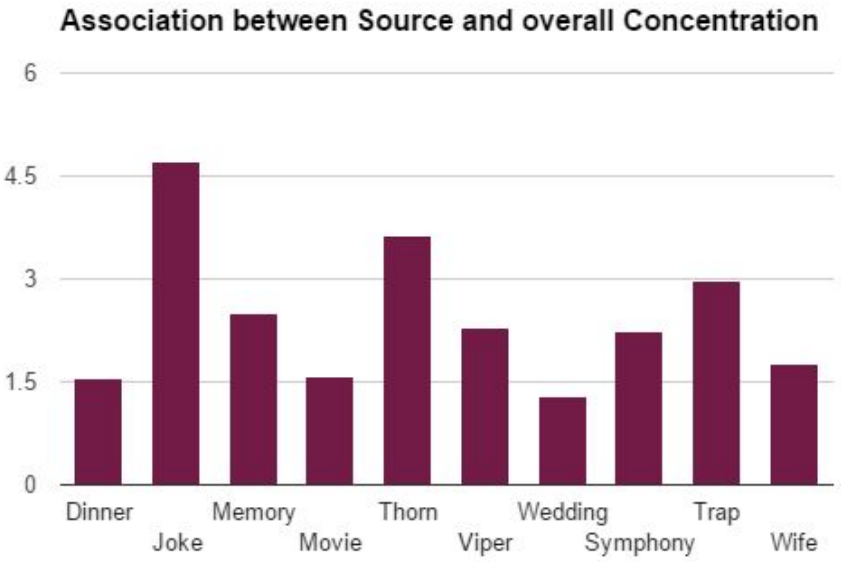


Table 1.2

Average concentration by source

	Sources									
Targets	Dinner	Joke	Memory	Movie	Thorn	Viper	Wedding	Symphony	Trap	Wife
Dinner	-	8.539	3.505	1.929	2.82	2.942	**1.498**	4.535	6.338	2.328
Joke	1.122	-	1.311	**0.816**	**4.541**	2.863	1.369	2.149	4.062	1.618
Memory	1.801	3.869	-	2.216	**9.22**	2.273	1.716	2.082	**1.443**	2.97
Movie	1.543	**7.757**	3.682	-	3.645	1.311	**0.975**	3.735	2.37	2.224
Thorn	**1.311**	**3.91**	3.735	3.137	-	3.24	2.014	2.014	2.489	1.421
Viper	1.754	**5.56**	3.27	1.345	2.489	-	**0.874**	1.421	3.719	1.543
Wedding	1.441	**4.243**	2.438	**0.964**	2.646	0.975	-	2.507	3.817	1.626
Symphony	3.036	**7.278**	2.9	1.175	3.545	0.814	**0.55**	-	2.642	1.618
Trap	2.321	**2.74**	**1.311**	2.461	2.539	2.415	1.782	2.517	-	2.386
Wife	1.188	3.091	2.748	1.841	4.796	**5.958**	1.281	1.512	2.875	-
AVERAGE DIFFICULTY	**1.552**	**4.698**	**2.49**	**1.588**	**3.624**	**2.279**	**1.206**	**2.247**	**2.975**	**1.773**

Note. Table B.1.2 presents theconcentration values of the sourceconcepts with each target concept and the global average of the source with all the targets. The numbers in red indicates the lowest concentration value of a source and a target concept while the black values indicate the highest difficulty.

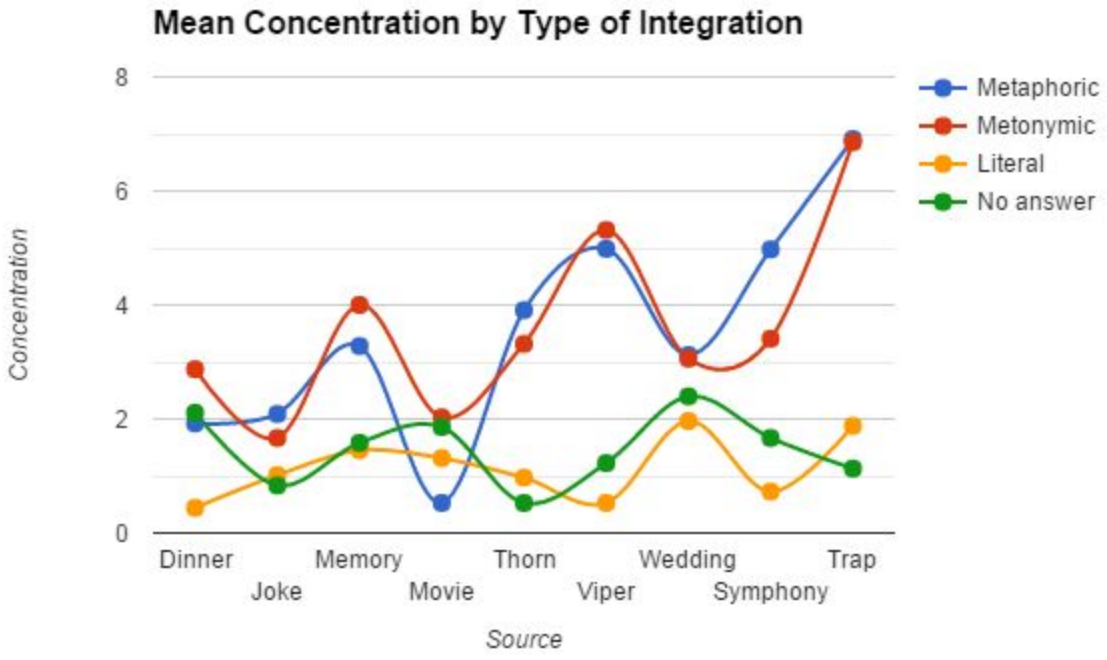


Table B.1.3

Average convergence by type of integration in the different sources.

Source	Metaphoric	Metonymic	Literal	No answer
Dinner	1.922	2.872	0.441	2.108
Joke	2.088	1.667	1.014	0.833
Memory	3.279	4.000	1.453	1.581
Movie	0.527	2.028	1.130	1.732
Thorn	3.909	3.317	0.972	0.526
Viper	4.986	5.315	0.527	1.225
Wedding	3.122	3.059	1.964	2.397
Symphony	4.975	3.408	0.726	1.667
Trap	6.91	6.856	1.878	1.130
Wife	1.944	2.506	1.269	1.900
TOTAL AVERAGE	**3.366**	**3.503**	**1.137**	**1.51**

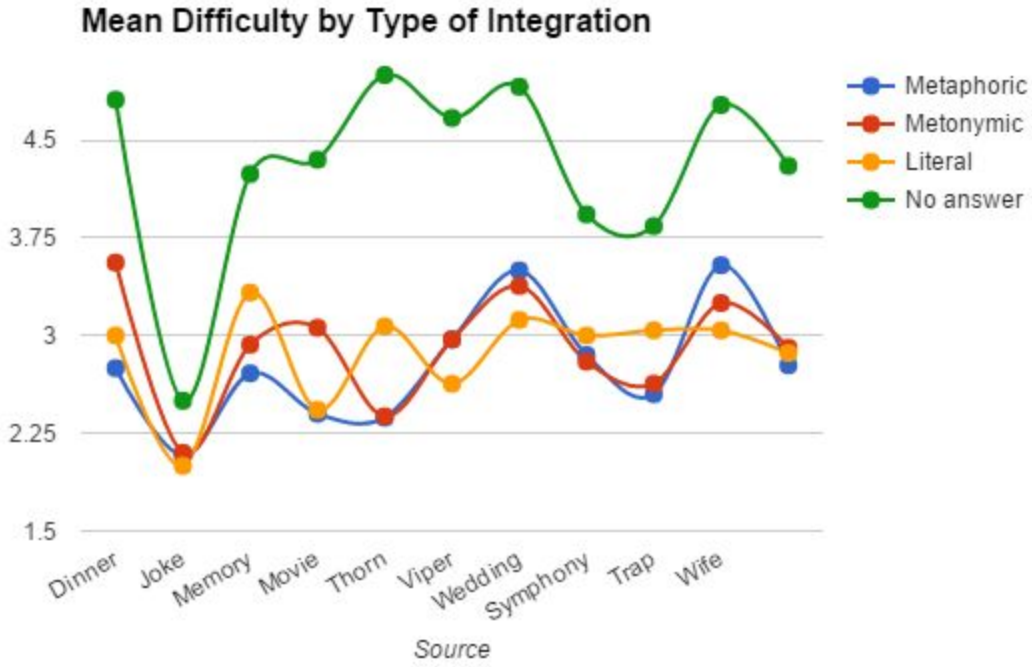
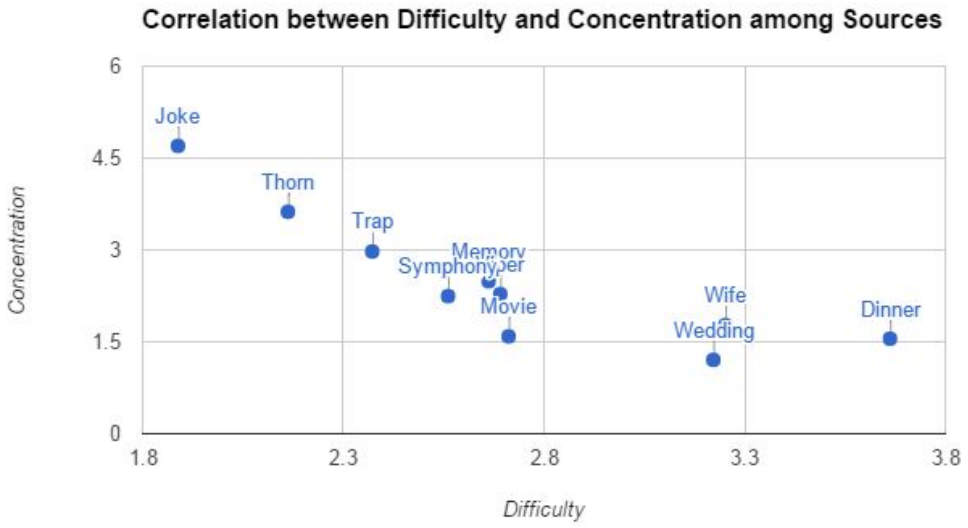
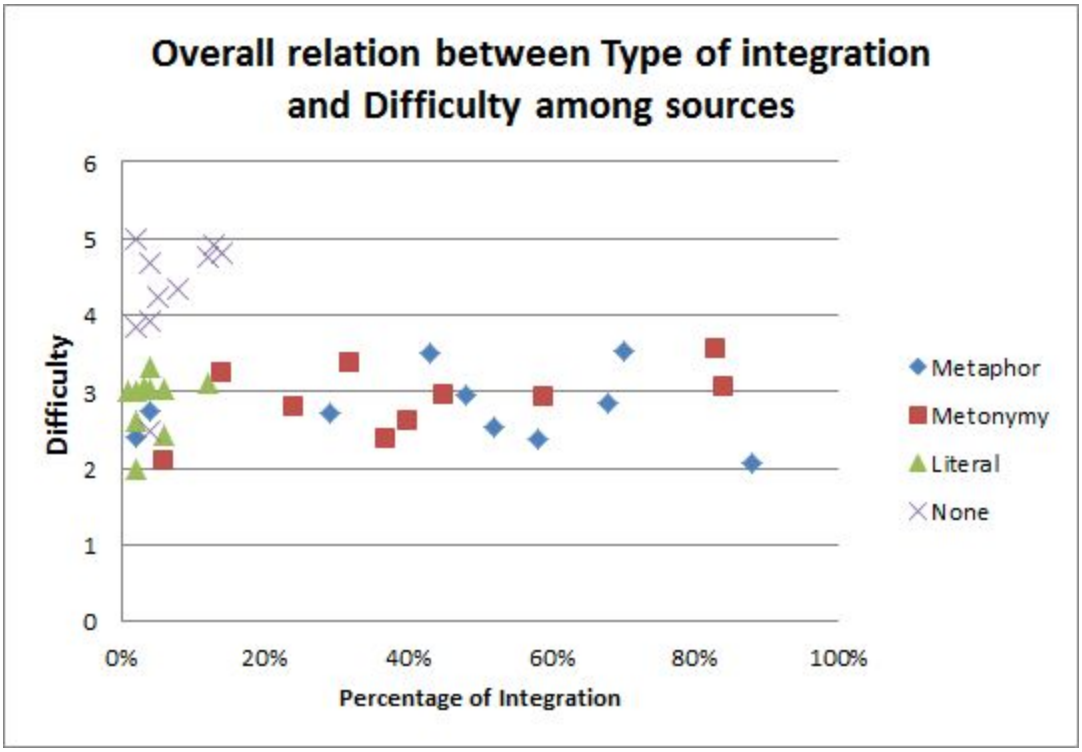


Table B.1.4

Average difficulty by type of integration in the different sources

Source	Metaphoric	Metonymic	Literal	No answer
Dinner	2.75	3.56	3.00	4.81
Joke	2.08	2.10	2.00	2.50
Memory	2.71	2.93	3.33	4.24
Movie	2.40	3.06	2.43	4.35
Thorn	2.37	2.38	3.07	5.00
Viper	2.97	2.97	2.63	2.67
Wedding	3.5	3.38	3.12	4.91
Symphony	2.85	2.80	3.00	3.93
Trap	2.55	2.63	3.04	3.840
Wife	3.54	3.25	3.04	4.77
TOTAL AVERAGE	**2.772**	**2.906**	**2.87**	**4.102**


Correlation between Difficulty and Concentration among Sources
Concentration
Difficulty
6
4.5
3
1.5
0
1.8
2.3
2.8
3.3
3.8
Joke
Thorn
Trap
Memory
Symphony
Movie
Wife
Wedding
Dinner


Overall relation between Type of integration and Difficulty among sources
Difficulty
Percentage of Integration
0
1
2
3
4
5
6
0%
20%
40%
60%
80%
100%
Metaphor
Metonymy
Literal
None

Appendix C: Data Analysis by Target

This final appendix section is related to the data analysis by target concepts. Tables containing the difficulty and concentration values of each source are presented, followed by a dispersion graph that displays the correlation between difficulty and concentration amongst target concepts.

1. Difficulty

Table C.1.1

Average difficulty

	Sources										
Targets	Dinner	Joke	Memory	Movie	Thorn	Viper	Wedding	Symphony	Trap	Wife	**AVERAGE DIFFICULTY**
Dinner	-	**1.6**	2.46	3.6	2.2	3.27	2.68	1.96	2.64	3.32	**2.37**
Joke	3.64	-	2.84	3.28	**2.28**	2.84	3.48	2.68	2.56	**3.8**	2.74
Memory	3.48	2.76	-	2.48	**1.74**	2.56	3.4	2.641	2.44	**3.56**	2.51
Movie	3.28	**1.84**	2.08	-	2.12	3.36	3.6	1.88	2.16	**3.68**	2.40
Thorn	3.92	**2.76**	3	4.04	-	2.88	3.5	**4.12**	3.8	3.4	**3.14**
Viper	**4.2**	**2.16**	3.24	3.28	3.1	-	3.8	4	2.96	3.2	2.99
Wedding	3.52	**1.84**	2.68	2.12	2.64	3.24	-	2.44	2.04	**3.64**	2.42
Symphony	2.96	**1.92**	3.36	2.06	2.3	3.72	3.56	-	2.92	**4.28**	2.76
Trap	**4.2**	**1.92**	3.64	2.72	3.4	3.52	4	3.32	-	3.64	3.04
Wife	3.76	2.08	3.32	3	1.84	**1.52**	**4.2**	2.57	2.2	-	2.45

Note. Table C.1.1 presents the difficulty values of the target concepts with each source concept and the global average of the target with the sources. The numbers in red indicates the lowest difficulty value of a target and a source concept while the black values indicate the highest difficulty.

2. Concentration

Table C.1.2

Average concentration

	Sources										
Targets	Dinner	Joke	Memory	Movie	Thorn	Viper	Wedding	Symphony	Trap	Wife	**AVERAGE DIFFICULTY**
Dinner	-	8.539	3.505	1.929	2.82	2.942	1.498	4.535	6.338	2.328	**3.443**
Joke	1.122	-	1.311	**0.816**	**4.541**	2.863	1.369	2.149	4.062	1.618	**1.985**
Memory	1.801	3.869	-	2.216	**9.22**	2.273	1.716	2.082	**1.443**	2.97	2.759
Movie	1.543	**7.757**	3.682	-	3.645	1.311	**0.975**	3.735	2.37	2.224	2.72
Thorn	**1.311**	**3.91**	3.735	3.137	-	3.24	2.014	2.014	2.489	1.421	2.327
Viper	1.754	**5.56**	3.27	1.345	2.498	-	**0.874**	1.421	3.719	1.543	2.198
Wedding	1.441	**4.234**	2.438	**0.964**	2.646	0.975	-	2.507	3.817	1.626	2.066
Symphony	3.036	**7.278**	2.9	1.175	3.545	0.814	**0.55**	-	2.642	1.618	2.356
Trap	3.321	**2.74**	**1.311**	2.461	2.539	2.415	1.782	2.517	-	2.386	2.047
Wife	1.188	3.091	2.748	1.841	4.796	**5.958**	1.281	1.512	2.875	-	2.529

Note. Table C.1.1 presents the difficulty values of the target concepts with each source concept and the global average of the target with the sources. The numbers in red indicates the lowest difficulty value of a target and a source concept while the black values indicate the highest difficulty.