

# The contemporary theory of metaphor

## **Conceptual metaphor**

Chapter 6

These famous lines by Thomas and Steven斯 are examples of what classical theorists, at least since Aristotle, have referred to as metaphor: instances of novel poetic language in which words like "mother", "go", and "night" are not used in their normal everyday sense. In classical theories of language, metaphor was seen as a matter of language, not thought. Metaphorical expressions were assumed to be mutually exclusive with the realm of ordinary everyday language: everybody conventionally language had no metaphor, and metaphor used mechanisms outside the realm of everyday language.

The classical theory was taken so much for granted over the centuries that many people didn't realize that it was just a theory. The theory was not merely a cognitive scientist and a linguist, one asks: what are the generalizations governing the linguistic expressions referred to classically as "poetic metaphors"? When this question is answered rigorously, the classical theory turns out to be false. The generalizations go over into the form of conceptual mappings, apply not just to novel poetic expressions, but to much of ordinary everyday language.

In short, the locus of metaphor is not in language at all, but in the way we use general principles which take the form of conceptual mappings. Moreover, these general principles across conceptual domains. Moreover, they are general mappings across conceptual domains. In language, generalizations govern poetic metaphorical expressions are not in language, but in thought: they are general mappings across conceptual domains. Moreover, these generalizations go over into the form of conceptual mappings, apply not just to novel poetic expressions, but to much of ordinary everyday language.

That's the answer to the question "What are the generalizations governing the linguistic expressions referred to classically as "poetic metaphors"?". The question is answered rigorously, the classical theory turns out to be false. The generalizations go over into the form of conceptual mappings, apply not just to novel poetic expressions, but to much of ordinary everyday language.

J. Introduction

- 1991 *Concepts, Image, and Symbol: The Cognitive Basis of Grammar*. Berlin/New York: Mouton de Gruyter.

1991 *Metaphors and Prototypes: Studies in Linguistic Categorization*. London/New York: Routledge.

1981 *The transitivity-related morphohology of Technical Nouns*: An exploration in Space grammar. Doctoral dissertation, University of California, San Diego.

1981 *Do not go gentle into that good night*. Dylan Thomas

1981 *Death is the mother of beauty*. Wallace Stevens, "Sunday Morning"

of these characteristics of metaphor, Reddy was the first to demonstrate them by triggering linguistic analyses, starting generalizations over voluminous examples. Reddy's chapter on how we conceptualize the concept of communication by metaphor gave us a tiny glimpse of an enormous system of conceptual metaphor. Since its appearance, an entire branch of linguistics and cognitive science has developed to study systems of metaphorical thought that we use to reason and base our actions on, and that underlie a great deal of the structure of language.

The bulk of the chapters in Ortony (1993[1979]), in which the present article appeared originally, were written before the development of the contemporary field of metaphor research. My chapter therefore contradicts much that appears in the other chapters of Ortony (1993[1979]), many of which make certain assumptions that were widely taken for granted in 1977. A major assumption that is challenged by contemporary research is the traditional division between literal and figurative language, with metaphor as a kind of figurative language. This entails a definition, that is: what is literal is not metaphorical. In fact, the word "literal" has traditionally been used with one or more of a set of assumptions that have by definition, that is: what is literal is not metaphorical. In fact, the word "literal"

## 1.2. Traditional false assumptions

- All everyday conventional language is literal, and none is metaphorical.
  - All subject matter can be comprehended literally, without metaphor.
  - Only literal language can be consistently true or false.
  - All definitions given in the lexicon of a language are literal, not metaphorical.
  - The concepts used in the grammar of a language are all literal; none are metaphorical.

The big difference between the contemporary theory and views of metaphor prior to Reddy's work lies in this set of assumptions. The reason for the difference is that, in the intervening years, a huge system of everyday, conventional, concepts has been discovered. It is a system of metaphor that structures our everyday conceptual system, including most abstract concepts, and that lies behind much of everyday language. The discovery of this enormous metaphor system has destroyed the traditional literal-figurative distinction, since the term "literal," as used in defining the traditional literal-figurative distinction, carries with it all those base assumptions.

A major difference between the contemporary theory and the classical one is based on the old literal-figurative distinction. Given that distinction, one might think that one "arrives at" a metaphorical interpretation of a sentence by "start-ing" with the literal meaning and applying some algorithmic process to it (see

A major difference between the contemporary theory and the classical one is based on the old literal-figurative distinction. Given that distinction, one might think that one "arrives at" a metaphorical interpretation of a sentence by "start[ing]" with the literal meaning and applying some algorithmic process to it (see *Figure 1*).

The contemporar y theory that metaphor is primarily conceptual, conventional, and part of the ordinary system of thought and language can be traced to Michael Reddy's (1993) now classic essay, "The Conduit Metaphor," which first appeared in the first edition of Ortony (1993 [1979]). Reddy did far more in that essay than he modestly suggested. With a single, thoroughly analyzed example, he allowed us to see, albeit in a restricted domain, that ordinary everyday English is largely metaphorical, dispelling once and for all the traditional view that metaphor is primarily in the realm of poetic or "figurative" language. Reddy showed, for a single, very significant case, that the locus of metaphor is thought, not language, that metaphor is a major and indispensable part of our ordinary, conventional way of conceptualizing the world, and that our everyday behavior reflects our metaphysical beliefs.

### 1.1. Homage to Ready

The answer to both is yes. Indeed, there is a single general principle that answers both questions, but it is a general principle that is neither part of the grammar of English, nor the English lexicon. Rather, it is part of the conceptual system underlying English. It is a principle for understanding the domain of love in terms of the domain of journeys.

Is there a general principle governing how our patterns of inference about journeys are used to reason about love when expressions such as these are used?

Is there a general principle governing how these linguistic expressions about journeys are used to characterize love?

As a linguist and a cognitive scientist, I ask two commonplace questions: about love.

These are ordinary, everyday English expressions. They are not poetic, nor are they necessarily used for special rhetorical effect. Those like *look how far we've come*, which aren't necessarily about love, can readily be understood as being

We may have to bail out of this relationship.

We're spinning our wheels.  
Our relationship is off the track.  
The marriage is on the rocks.

We may have to go our separate ways.  
The relationship isn't going anywhere.  
We're in it a crossroads.

Look how far we've come.  
It's been a long, bumpy road.  
We can't turn back now.  
We're on a new road.

can be understood that way:

Here love is being conceptualized as a journey, with the implication that the relationship is stalled, that the lovers cannot keep going the way they've been going, that they must turn back, or abandon the relationship altogether. This is not an isolated case. English has many everyday expressions that are based on a conception of love as a journey, and they are used not just for talking about love, but for reasoning about it as well. Some are necessarily about love; others

Our relationship has hit a dead-end street.

Imagine a love relationship described as follows:

## 2.1. Conceptual metaphor

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We will be discussing primarily they are the most robust.

- Let us now turn to some examples that are illustrative of contemporary metaphor research. They will mostly come from the domain of everyday conventional phrasers, since that has been the main focus of the research. I will turn to the discussion of poetic metaphor only after I have discussed the conventional system, since knowledge of the conventional system is needed to make sense of most of the poetic cases.

The evidence for the existence of a system of conventional conceptual metaphors is of five types:

  - Generalizations governing polysemy, that is, the use of words with a number of related meanings
  - Generalizations governing inference patterns, that is, cases where a pattern of inferences from one conceptual domain is used in another domain
  - Generalizations governing inference patterns, that is, cases where a pattern of metaphorical language (see Lakoff and Turner 1989)
  - Generalizations governing patterns of semantic change (see Swetscher 1990)
  - Generalizations governing patterns of experimental results (see Gibbs 1990)

## 2. The contemporary theory: Some examples

Although the old inter-al-metaphorical distinction was based on assumptions that have proved to be false, one can make a different sort of inter-al-metaphorical distinction: those concepts that are not comprehended via conceptual metaphor might be called „literal“. Thus, although I will argue that a great many common concepts like causation and purpose are metaphorical, there is nonetheless an extensive range of non-metaphorical concepts. A sentence like *the balloon went up* is not metaphorical, nor is the old philosopher's favorite *the cat is on the mat*. But as soon as one gets away from concrete physical experience and starts talking about abstractions or emotions, metaphorical understanding is the norm.

I.3. What is not metaphorical

Seatrete 1993). Though there do exist cases where something like this happens, this is not in general how metaphor works, as we shall see shortly.

Two lovers are in a love relationship, pursuing common life goals. The relationship encounters some difficulty, which makes it nonlinear. If they do nothing, they will not be able to achieve their life goals. There are a limited number of alternatives for action: either by fixing it or getting it past them. They can try to get it moving again, either by fixing it or getting it past the difficulty.

TWO TRAVELERS ARE IN A VEHICLE, TRAVELING WITH COMMON DESTINATIONS. THE VEHICLE ENCOUNTERS SOME IMPEDIMENT AND GETS STUCK, THAT IS, BECOMES NONFUNCTIONAL. IF THE TRAVELERS DO NOTHING, THEY WILL NOT REACH THEIR DESTINATIONS. THERE ARE A LIMITED NUMBER OF ALTERNATIVES FOR ACTION:

- THEY CAN TRY TO GET THE VEHICLE MOVING AGAIN, EITHER BY FIXING IT OR GETTING IT PAST THE IMPEDIMENT THAT STOPPED IT.
- THEY CAN REMAIN IN THE NONFUNCTIONAL VEHICLE AND GIVE UP ON REACHING THEIR DESTINATIONS.
- THEY CAN ABANDON THE VEHICLE.

THE ALTERNATIVE OF REMAINING IN THE NONFUNCTIONAL VEHICLE TAKES THE LEAST EFFORT, BUT DOES NOT SATISFY THE DESIRE TO REACH THEIR DESTINATIONS.

*We're stuck can be used of travel, and when it is, it evokes knowledge about travel. The exact knowledge may vary from person to person, but there is a typical example. The exact knowledge may vary from person to person, but here is a typical example in the ontology of travel, that is, in the source domain of the LOVE-IS-A-URNBY mapping given above.*

The LOVE-AS-JOURNEY mapping is a set of ontological correspondences that characterize epistemic correspondences by mapping knowledge about journeys onto knowledge about love. Such correspondences permit us to reason about love using the knowledge we use to reason about journeys. Let us take an example. Consider the expression, "we're stuck", said by one lover to another about their relationship. How is this expression about travel to be understood as being about

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If mapnames are confused with names of mappings, another misunderstanding can arise. Names of mappings commonly have a propositional form, for example, LOVE IS A JOURNEY. But the mappings themselves are not propositions. If mappings are confused with names for mappings, one might mistakenly think that, in a set of correspondences,

Journey. Difficulties in the relationship correspond to impediments to travel. It is a common mistake to confuse the name of the mapping, love is a journey, for the mapping itself. The mapping is the set of correspondences, Thus, whenever I refer to a metaphor by a mnemonic like love is a journey, I will be referring to such mon difficulties in the relationship correspond to impediments to travel. It is a common mistake to confuse the name of the mapping, love is a journey, for the mapping itself. The mapping is the set of correspondences, Thus, whenever I refer to a metaphor by a mnemonic like love is a journey, I will be referring to such

- The love relationship corresponds to the vehicle.
- The lovers' common goals correspond to their common destinations on the road.

THE LOVE-AS-JOURNEY MAPPING

To make it easier to remember what mappings there are in the conceptual system, Johnson and Lakoff (1980) adopted a strategy for naming such mappings, using mnemonics which suggest the mapping. Mnemonic names such as SOURCE-DOMAIN, TARGET-DOMAIN and JOURNEY have the form: TARGET-DOMAIN IS SOURCE-DOMAIN, typically (though not always) being the most common. In this case, the name of the mapping is LOVE IS A JOURNEY. When I speak of the love is a journey metaphor, I am using a mnemonic for a set of ontological correspondences that characterize a mapping, namely:

The metaphor involves understanding one domain of experience, love, in terms of a very different domain of experience, journeys. More technically, the metaphor can be understood as a mapping (in the mathematical sense) from a source domain (in this case, journeys) to a target domain (in this case, love). The map-ping is highly structured. There are ontological correspondences, according to which entities in the domain of love (e.g., the lovers, their common goals, their difficulties, the love relationship, etc.) correspond systematically to entities in the

The lovers are travelers on a journey together, with their common life goals seen as destinations to be reached. The relationship is their vehicle, and it allows them to pursue those common goals together. The relationship is seen as fulfilling its purpose as long as it allows them to make progress toward their common goals. The journey isn't easy. There are impediments, and there are places (crossroads) where a decision has to be made about which direction to go in and whether to keep traveling together.

The principle can be stated informally as a metaphorical scenario:

The fact that the love-is-a-journey mapping is a hexed part of our conceptual system explains why new and imaginative uses of the mapping can be understood instantly, given the ontological correspndences and other knowledge about journeys. Take the song lyric, *We're driving in the fast lane on the freeway of love*. The traveling knowledge called upon is this: when you drive in the fast lane, you go a long way in a short time and it can be exciting and dangerous. The general metaphorical mapping maps this knowledge about driving into knowledge about love relationships. The danger may be to the vehicle (the relationship may not last) or the passengers (the lovers may be hurt emotionally). The excitement of the love journey is sexual. Our understanding of the song lyric is a consequence of the preexisting metaphysical correspondences of the love is a journey metaphor.

## 2.4. / Novel extensions of conventional metaphors

- Polysemy generalization: a generalization over related senses of linguistic terms, for example, *dead-end street*, *crossroads*, *stuck*, *spin*.  
Lexical generalization: a generalization over interferences across different domains.  
That is, the existence of the mapping provides a general answer to two questions:  
- Why are words for travel used to describe love relationships?  
- Why are inference patterns used to reason about travel also used to reason about love relationships?  
Correspondingly, from the perspective of the linguistic analyst, the existence of such cross-domain patterns of words and of inference patterns provides evidence for the existence of such mappings.

2.3. Generalizations

As mnemonics to name maplings. Thus, when we refer to the love is a journey English sentence love is a journey, on the other hand, is a metaphorical expression that is understood via the set of correspondences.

It should be noted that contemporary metaphor theorists commonly use the term „metaphor” to refer to the conceptual mapping that connects two domains of experience. We have adopted this terminology for the following reason: Metaphor, as a phenomenon, involves both conceptual mappings and individual linguistic expressions. It is important to keep them distinct. Since it is the mappings that are primary and that state the generalizations that are our principal concern, we have reserved the term „metaphor” for the mappings, rather than for the linguistic expressions.

This view of metaphor is thoroughly at odds with the view that metaphors are just linguistic expressions. If metaphors were merely linguistic expressions, we would expect different linguistic expressions to be different metaphors. Thus, are just linguistic expressions. If metaphors were merely linguistic expressions, we could expect different linguistic expressions to be different metaphors. Thus, now would constitute another, entirely different metaphor. Their marriage is on the rocks would involve still a different metaphor. And so on for dozens of examples. Yet we don't seem to have dozens of different metaphors here. We have one metaphor, in which love is conceptualized as a journey. And this unified way us precisely how love is being conceptualized as a journey. The mapping tells us precisely how love is being conceptualized as a journey. And this unified way of conceptualizing love metaphorically is realized in many different linguistic

## 2.2. Metaphors are not mere words

This is an example of an inference pattern that is mapped from one domain to another. It is via such mappings that we apply knowledge about travel to love relationships.

**ACHIEVING THEIR LIFE GOALS.**  
They can abandon the RELATIONSHIP.  
The alternative of remaining in the nonfunctional RELATIONSHIP takes the least effort, but does not satisfy the desire to ACHIEVE life GOALS.

It should be no surprise that the generalization is at the superordinate level, while the special cases are at the basic level. After all, the basic level is the level of rich mental images and rich knowledge structure. (For a discussion of the properties of basic level categories and rich knowledge structures, see Lakoff 1987: 31–50.) A mapping at the superordinate level categorizes the possibilities for mapping rich conceptual structures in the source domain onto the target domain, since it permits many basic level instances, each of which is information rich.

In the LOVE-IS-A-OURNEY mapping, a love relationship corresponds to a vehicle. A vehicle is a superordinate category that includes such basic-level categories as car, train, boat, and plane. The examples of vehicles are typically drawn from this range of basic-level categories: car (long bumpy road, spinning off wheels), train (off the track), boat (on the rocks, founders, spinning our wheels), and plane (off the track, boat (on the rocks, founders, spinning our wheels), boat (on the rocks, founders, spinning our wheels)). This is not an accident; in general, we have found that mappings are at the superordinate rather than the basic level. Thus, we do not find fully general submaps like A LOVE RELATIONSHIP IS A CAR; when we find a love relationship conceptualized as a car, we also tend to find it conceptualized as a boat, a train, a plane, and so forth. It is the superordinate category VEHICLE not the basic level category CAR that is in the general mapping.

2.7. Mappings are at the superordinate level

The love is a journey metaphor applies to this knowledge about the image. It maps this knowledge onto knowledge about love relationships: a lot of energy is being spent without any progress toward fulfilling common goals, the situation will not change of its own accord, it will take a lot of effort on the part of the lovers to make more progress, and so on. In short, when idiosyncratic associations to map their knowledge from the source to the target domain. For a sure-metaphor to map their knowledge from the source to the target domain. For a sure-very of experiments verifying the existence of such images and such mappings. See Gibbs (1990).

An idiom like *spinning one's wheels* comes with a conventional mental image, that of the wheels of a car stuck in some substance - mud, sand, snow, or on ice - so that the car cannot move when the motor is engaged and the wheels turn. Part of our knowledge about that image is that a lot of energy is being used up (in spinning the wheels) without any progress being made, that the situation will not readily change of its own accord, that it will take a lot of effort on the part of the occupants to get the vehicle moving again - and that now, as in the past, there is a loss of time.

rather moribund. That is, they do not arise automatically by productive rules, but rather involve more patterns present in the conceptual system. Let us look a little

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Many of the metaphorical expressions discussed in the literature on conventional metaphors are idioms. On classical views, idioms have arbitrary meanings, but within cognitive linguistics, the possibility exists that they are not arbitrary, but rather are mapped by the love is a journey metaphor in the case of *We're driving in the fast lane on the freeway of love*.

2.6. Imagable idioms

## 2.5. Motivation

3. The final correspndences.

2. The possibility for understanding novel extensios in terms of the conve-

1. The use of metaphor to govern reasoning and behavior based on that

The song lyrics is instantly comprehensible to speakers of English because those metaphorical correspondences are already part of our conceptual system. The love is a journey metaphor and Ruddy's Conduit Metaphor were the two examples that first convinced me that metaphor was not a figure of speech, but a mode of thought, defined by a systematic mapping from a source to a target domain. What convinced me were the three characteristics of metaphor that have just discussed:

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If  $X$  is in category A and category B, then  $X$  is in category B.

Thus, the logical properties of classical categories can be seen as following from the topological properties of containers plus the metaphorical mapping from containers to categories. As long as the topological properties of containers are preserved by the mapping, this result will be true.

In other words, there is a generalization to be stated here. The language of containers applies to classical categories and the logic of containers is true of classical categories. A single metaphorical mapping ought to characterize both the linguistic and logical generalizations at once. This can be done provided that the topological properties of containers are preserved in the mapping.

The joint linguistic-and-metaphorical relation between containers and classical categories is not an isolated case. Let us take another example.

is of the form:

Thus, a prediction is made about conventional mappings: the categories mapped will tend to be at the superordinate rather than the basic level. One tends not to find mappings like A LOVE RELATIONSHIP IS A CAR OR A LOVE RELATIONSHIP IS A BOAT. Instead, one tends to find both basic level cases (e.g., both cars and boats), which indicates that the generalization is one level higher, at the superordinate level of the vehicle. In the hundreds of cases of conventional mappings studied so far, this prediction has been borne out: it is superordinate categories that are used in mappings.

3. Basic semantic concepts that are metaphorical

Most people are not too surprised to discover that emotional concepts like love and anger are understood metaphorically. What is more interesting, is the realization that many of the most basic concepts in our language are understood metaphorically. And I think more exciting, is the realization that many of the most basic concepts in our conceptual systems are also normally comprehended via metaphor - concepts like time, quantity, state, change, action, causation, purpose, means, modality, and even the concept of a category. These are concepts that enter normally into the grammar of languages, and if they are indeed metaphorical in nature, then metaphor becomes central to grammar.

I would like to suggest that the same kinds of considerations that lead to our acceptance of the love as a journey metaphor lead inevitably to the conclusion that such basic concepts are often, and perhaps always, understood via metaphor.

### 3.1. Categories

Classical categories are understood metaphorically in terms of bounded regions, or "containers." Thus, something can be in or out of a category, it can be put into a category or removed from a category. The logic of classical categories is the logic of containers (see Figure 1).

logic of containers (see Figure 1).

### 3.2. Quantity and linear scales

The concept of anomalies involves at least two metaphors. The first is the well-known more is up, less is down metaphor as shown by a myriad of expressions like prices rose, stocks skyrocketed, the market plummeted, and so on. A second that linear scales are paths. We can see this in expressions like:

Dolphin is far more intelligent than Bill.

The metaphor maps the starting point of the path onto the bottom of the scale and maps distance traveled onto quantity in general.

X is in A  
A is in B  
 $\therefore$  X is in B

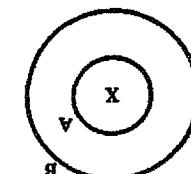


Figure 7.

Similarly, for sentences like John's intelligence goes beyond Bill's, the nonmetaphorical analysis would claim that *go* is not fundamentally a verb of motion at all, but is somehow neutral between motion and a linear relation. This would also be bizarre. In short, if one grants that *ahead of* and *go* are fundamentally spatial, then the fact that they can also be used of linear scales suggests a metaphorical situation. There could be no such neutral sense of *go* for these cases, since *go beyond* in the spatial sense involves motion, while in the linear scale sense, there is no motion or change, but just a point on a scale. Here the neutral case solution is not even available.

### 3.3. The Invariance Principle

In the examples we have just considered, the image-schemas characterizing the source domains (containing, paths) are mapped onto the target domains (categories, linear scales). This observation leads to the following hypothesis, called "The Imvariance Principle":

Metaphorical mappings preserve the cognitive structure of the source domain, in a way consistent with the inherent structure of the target domain.

What the Invariance Principle does is guarantee that, for continuous schemes, interiors will be mapped onto interiors, exteriors onto exteriors, and boundaries onto boundaries; for path-schemes, sources will be mapped onto sources, goals onto goals, trajectories onto trajectories, and so on.

To understand the Lvariariance Principle property, it is important not to think of mappings as algorithmic processes that "star" with source domain structure and end up with target domain structure. Such a mistaken understanding of mapping would lead to a mistaken understanding of the Lvariariance Principle, namely, that one first picks all the image-schematic structure of the source domain, then applies it onto the target domain unless the target domain interferes.

One should instead think of the Invariance Principle in terms of constraints on mixed correspondences; if one looks at the existing correspondences, one will see that the Invariance Principle holds: source domain interiors correspond to target domain interiors; source domain exteriors correspond to target domain exteriors. As a consequence it will turn out that the image-schematic structure and so forth. One cannot find cases where a source domain interior is mapped onto a target domain path. This simply does not happen.

Looking at the inferential structure alone, one might suggest a non-metaphorical alternative in which both linear scales and paths are instances of a more general abstract schema. But when both the inferential and lexical data are considered, it becomes clear that a metaphorical solution is required. An expression like ahead of is from the spatial domain, not the linear scale domain: ahead in its core sense is defined with respect to one's head — it refers to the direction in which one is facing. To say that there is no metaphorical mapping from paths to scales is to say that ahead of is not fundamentally spatial and characterized with respect to linear scales; it is to claim rather that ahead is very abstract, neutral between space and heads; it is to do with heads. This would be a bizarre analysis.

The form of these differences is the same. The path difference is a consequence of the cognitive topology of paths. It will be true of any path image-schema. Again, there is a linguistic-and-inferential generalization to be stated. It would be stated by the metaphor linear scales are parts, provided that metaphors in general preserve the cognitive topology (that is, the image-schema structure) of the source domain.

Liner scale difference; if you have exactly \$30 in your bank account, then you have \$40, \$30, and so on, but not \$60, \$70, or any larger amount.

Example: If you are going from San Francisco to New York along Route 80, and you are now at Chicago, then you have been to Denver but not to Pittsburgh.

Path difference: if you are going from A to C, and you are now at an intermediate point B, then you have been at all points between A and B and not at any points between B and C.

What is particularly interesting is that the logic of paths maps onto the logic of linear scale (see Figure 2).

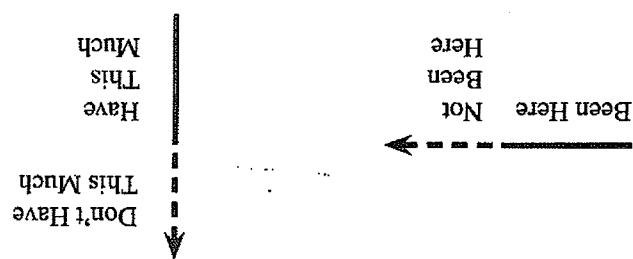


Figure 2.

The time will come when . . . I have gone when . . . The time for action has arrived. That time is here. In the weeks following next Thursday . . . On the preceding day . . . I'm looking ahead to Christmas.

This metaphor, TIME PASSING IS MOTION, with its two special cases, embodies a generalization that accounts for a wide range of cases where a spatial expression can also be used for time. Special case 1, TIME PASSING IS MOTION OF AN OBJECT, accounts for both the linguistic form and the semantic entailments of expressions like:

Time has extension, and can be measured.  
Bentallum: An extended time, like a spatial area, may be conceived of as a bounded region.

- If time 2 follows time 1, then time 2 is in the future relative to time 1.
- The time passing the observer is the present time.
- Time has a velocity relative to the observer.
- Special case 2:
- Times are fixed locations; the observer is moving with respect to time.

- The passing of time is motion.
- Future times are in front of the observer; past times are behind the observer.
- One thing is moving, the other is stationary; the stationary entity is the deficit center.
- Entailment:
- Since motion is continuous and one-dimensional, the passage of time is continuous and one-dimensional.
- Special case I:
- The observer is fixed; times are entities moving with respect to the observer.
- Times are oriented with their fronts in their direction of motion.

Ontology: Time is understood in terms of things (that is, entities and locations) and motion. Background condition: The present time is at the same location as a canonical observer.

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The details are rather interesting.

It has often been noted that time in English is conceptualized in terms of space.

### 3.6. Time

The Invariance Principle raises the possibility that a great many, if not all, image-scheme structures are always preserved by metaprograms. Inherent in the topological structure of image-schemes, I will now turn to other cases of basic, but abstract, concepts to see what evidence there is for the claim that such concepts are fundamentally characterized by metaphor.

Spatial differences are characterized by the topological structure of image schemas. We have seen cases such as CATEGORIES ARE CONTAINERS and LINEAR SCALES ARE PATHS where seen cases such as IMAGE-SCHEMATA structure are abstract paths where abstract differences about categories and linear scales are metaphorical versions of spatial differences about containers and linear paths. The invariant principle hypothesizes that

### 3.5. Abstract inferences as metaphorical spatial inferences

A corollary of the Invariance Principle is that inage-schema structure inherent in the target domain cannot be violated, and that inherent target domain structure limits the possibilities for mappings automatically. This general principle explains a large number of previously mysterious limitations on metaphorical mappings. For example, it explains why you can give someone a kick, even if that person doesn't have it afterwards, and why you can give someone a kick, even if that person you don't lose it. This is a consequence of the fact that inherent target domain structure automatically limits what can be mapped. For example, consider that part of your inherent knowledge of actions that says that actions do not continue to exist after they occur. Now consider the ACTIONS ARE TRANSFERS metaphor, in which actions are conceptualized as objects transferred from an agent to a patient, as when one gives someone a kick or a punch. We know (as part of target domain knowledge) that an action does not exist after it occurs. In the source domain, where there is a giving, the recipient possesses the object given after the giving. But this cannot be mapped onto the target domain since the inherent structure of the target domain says that no such object exists after the action is over. The target domain overrides the Invariance Principle explains why you can give someone a kick without his having it afterwards.

### 3.4. Target domain overrides

The two special cases (location and object) of the TIME PASSING IS MOTION metaphor are not merely an accidental feature of our understanding of time. As we shall see below, there are other metaphors that come in such location/object pairs. Such pairs are called "duals," and the general phenomenon in which metaphors come in location/object pairs is referred to as "duality".

### 3.7. Duality

It is important to recall that metaphorical mappings are fixed correspondences that can be activated, rather than algorithmic processes that take inputs and give outputs. Thus, it is not the case that sentences containing conventional metaphors are the products of a real-time process of conversion from literal to metaphorical readings. A sentence like *The time for action has arrived* is not understood by first trying to give a literal reading to arrive, and then, on failing, trying to give it a temporal reading. Instead, the metaphor TIME PASSING IS MOTION is a fixed structure of existing correspondences between the space and time domains, and arrive has a conventional extended meaning that makes use of that fixed structure of correspondences.

Thus, it is possible for two different parts of a sentence to make use of two distinct metaphorical mappings at once. Consider a phrase like, *within the coming weeks*. Here, *within* makes use of the metaphor of time as a stationary landing zone. Within has extension and bounded regions, whereas coming makes use of space as a sequence of times as moving objects. This is possible because the two metaphors for time pick out different aspects of the larger domain. Within looks inside that whole, conceptualizing it as a bounded region with an interior. Each mapping is used partially. Thus, although the mappings – as wholes – are inherently inconsistent, there are cases where parts of the mappings may be consistently superimposed. The invariant principle allows such parts of the mappings to be picked out and used to characterize reasoning about different aspects of the three different metaphors for death, each mapped onto different parts of the sentence. Night reflects a lifetime is a day, with death as night. This one line has three different metaphors for death, each mapped onto different parts of the sentence. There is an important lesson to be learned from this example. In mathematical mappings are static correspondences. In computer science, it is common to have them come up on us. Let's put all that behind us. I can't face the future. Time is flying by. The time has passed when . . .

Special case 2 maps location expressions like *down the road, for + location, over, come, close to, within, in, past, onto* corresponding temporal expressions like: *long, over, come, close to, within, in, past, onto* temporal relations between terms and time. The details of the two special cases are rather different; indeed, they are incomparable relations spatial terms and inference patterns to temporal terms and inference patterns. The existence of such special cases has an especially interesting theoretical consequence: words mapped by both special cases will have system with one another. The existence of such special cases has an especially inconistent reading. Take, for example, the come of Christmas is coming (special case 1) and We're coming up on Christmas (special case 2). Both instances of inconistent readings. Here, for example, the come of Christmas is coming (special case 1) and We're coming up on Christmas (special case 2). Both instances of come are temporal, but one takes a moving time as first argument and the other takes a moving observer as first argument. The same is true of pass in *The time has passed* (special case 1) and in *He passed the time* (special case 2).

These differences in the details of the mappings show that one cannot just say different – and inconsistent – subcases.

When we are explicit about stating the mappings, we discover that there are two details, as though there were only one correspondence between time and space. Without specifying time, without specifying locations, we do not have detectors for motion and detectors for objects/locations. We do not have and locations accords with our biological knowledge. In our visual systems, we have detectors for time (whatever that could mean). Thus, it makes good biological sense that time should be understood in terms of things and motion.

The fact that time is understood metaphorically in terms of motion, entities, and motion should be understood in terms of things and motion.

- Aids to action are aids to motion:
  - It is smooth sailing from here on in. It's all downhill from here.
  - There's nothing in our way.
- A different means of achieving a result is a different path:
  - Do it this way. She did it the other way. Do it any way you can. However you want to go about it is fine with me.
  - Manner of action is manner of motion:
- We are moving/rumming/skipping/right along. We sloganized through it.
- He is flailing around. He is falling all over himself. We are leaping over hurdles. He is out of step. He is in step.

- Manner of action is manner of motion.
- A different means for achieving a purpose is a different path.
- Forces affecting action are forces affecting motion.
- The inability to act is the inability to move.
- Progress made is distance traveled or distance from goal.
- We will consider examples of each of these one by one, including a number of special cases.

To see just how rich the event structure metaphor is, consider some of its basic entailments:

He's carrying quite a load. He's weighed down by a lot of assignments.  
He's been trying to shoulder all the responsibility. Get off my back!  
Quite pushing me around. She's leading him around by the nose. She's  
holding him back.  
Countercultures:  
Lack of an energy source:  
I'm out of gas. We're running out of steam.

Blockages:	He got over his divorce. He's trying to get around the regulations.
He went through the trial. We ran into a brick wall.	We've got him boxed into a corner.
He went through the trial. We ran into a brick wall.	We've got him boxed into a corner.
Features of the terrain:	He's between a rock and a hard place. It's been uphill all the way.
Features of the terrain:	We've been bogged down. We've been hacking our way through a jungle of regulations.

extremes of the terrain; burdens; counter-forces; lack of an energy source. Here are examples of each:

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- Causes are forces.
- Changes are movements (into or out of bounded regions).
- States are locations (bounded regions in space).
- Actions are self-propelled movements.
- Purposes are destinations.
- Means are paths (to destinations).
- Difficulties are impediments to motion.
- Expected progress is a travel schedule; a schedule is a virtual traveler, who reacts to rearranged destinations at prearranged times.
- External events are large, moving objects.
- Long term, purposeful activities are journeys.
- This mapping generalizes over an extremely wide range of expressions for one or more aspects of event structure. For example, take states and changes. We speak of being in or out of a state, of going into or out of it, of entering or leaving it, of getting to a state or emerging from it.

I now want to turn to some research by myself and some of my students (especially Sharon Fischler, Katri Myhrer, and Jane Espensom) on the metaphorical understanding of event structure in English. What we have found is that various aspects of event structure, including notions like states, changes, processes, actions, causes, and means, are characterized cognitively via metaphor in terms of space, motion, and force.

The general mapping we have found goes as follows:

4. Event structure



Such hierarchical organization is a very prominent feature of the metaphor system of English and other languages. So far we have found that the metaphors higher up in the hierarchy tend to be more widespread than those mappings at the bottom of the hierarchy.

The hierarchy also allows us to characterize lexical items whose meanings are more restricted: Thus, combining the ladder refers only to careers, not to love

The second generalization is integral in character. Thus the understanding of difficulties as impediments to travel occurs not only in events in general, but also in a purposeful life, in a love relationship, and in a career. The inheritance hierarchy guarantees that this understanding of difficulties in life, love, and careers

The hierarchy shows one to state a generic principle: *classical* is excluded lexically via the submitaphor of the event structure *long-term* purposes. All its other uses are automatically generated via the inheritance hierarchy. Thus, separate senses for each level of the hierarchy are not needed.

I'm at a crossroads on this project. I'm at a crossroads in my life. We're at a crossroads in our relationship. I'm at a crossroads in my career.

This inheritance hierarchy accounts for a range of generalizations. First, there are generalizations about lexical items. Take the word *crossroads*. Its central meaning is in the domain of space, but it can be used in a metaphorical sense to speak of any extended activity, of one's life, or a love relationship, or of a career.

He clawed his way to the top. He's over the hill. She's on the fast track.  
He's climbing the corporate ladder. She's moving up in the ranks quickly.

Examples include: **high**, **rac**, and **last as possible**.

A careerist is a traveler.  
Status is up.  
Inheriting life is a journey, with life goals = career goals. Ideal: to go as

A CAREER IS A JOURNEY  
- Target domain: Career      Source domain: Space

special cases of life goals.

A career is another aspect of life that can be conceptualized as a journey. Here, because status is up, a career is actually a journey inward. Career goals are

- The love relationship is a vehicle.
- Linchets the life is a journey metaphor.

of inheriting the life is a journey metaphor. Because the lovers are in the same vehicle, they have common destinations, that is, common life goals. Relationship difficulties are impediments to travel.

Just as significant cases of love are special cases of events, so events in a love relationship are special cases of life events. Thus, the love is a journey metaphor inherits the structure of the life if we events. That is, the love is a journey metaphor that the love is a vehicle. The rest of the mapping is a consequence

He's got a head start in life. He's without direction in his life. I'm where I want to be in life. I'm at a crossroads in my life. He'll go places in life. He's never let anyone get in his way. He's gone through a lot in life.

Thus we have expressions like:

Purposes = life goals  
Events = significant life events

- Targeted domain: Life      Source domain: Space
- The person leading a life is a traveler.
- Inherits event structure metabehavior.

In short, the metaphor A PURPOSEFUL LIFE IS A JOURNEY makes use of all the structure of the event structure metaphor, since events in a life conceptualized as purposeful are subcases of events in general.

In our culture, life is assumed to be purposeful; that is, we are expected to have goals in life, in the event structure metaphor, that is, we are expected to have a long-term, purposeful activity, and hence a journey. Goals in life are descriptive actions, or purposes, toward a destination. A purposeful life is a means to achieve a goal, and the totality of one's actions form a path to a destination. Choosing means, and the totality of one's actions form a path to a destination. Difficulties in life are impediments to motion. External events are large moving objects that can impede motion toward one's life goals. One's expected progress through life is charted in terms of a life schedule, which is conceptualized as a virtual traveler that one is expected to keep up with.

Long-term, purposeful activities are journeys.

There is also a hierarchical structure in the object-version of the event structure metapAVOR. A special case of getting an object as getting an object to eat. Hence:

opportunity. He found success.

Reach for/grab all the gusto you can get. Latch onto a good job. Seize the initiative. It escaped me. It slipped through my hands. He is pursuing a goal.

They just handed him the job. It's within my grasp. It eluded me. So far

ACHIEVING A PURPOSE IS ACQUIRING A DESIRED OBJECT

ere are some examples:

oneself of an undesirable one).

The submapping purposes are dual. Destinations also has a dual. Destinations are destined locations and so the submapping can be rephrased as purposes are destined locations and achieving a purpose is reaction a destined location.

Similarly, ACTIONS ARE SELF-PROPELLED MOVEMENTS (to or from locations) has as its object-dual ACTIONS ARE SELF-CONTROLLED ACQUISITIONS OR LOSSES. Thus, there is a reason why one can "take" certain actions — one can take a shower, or take a shot at someone, or take a chance.

- States are locations.
  - Changes are movements (to or from locations).
  - Causes are forces controlling movement to or from locations).

These are the duals of:

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Changes are movements (of possessions, namely, acquisitions or losses). Causes are forces controlling the movement of possessions, namely, giving

- Metaphors
- Attributes are possessions.

Given this, we can see that there is an object-version of the event structure

Since states and attributes are also special cases of the same thing – what can be attributed to someone.

Thus, STATES ARE LOCATIONS AND ATTRIBUTES ARE POSSESSIONS are duals, since possession and location are special cases of the same thing - co-location - and except that they are conceived as possessive objects.

metaphorically as co-location. In *I'm in trouble*, trouble is a state. A state is an attribute conceptualized as co-location. Attributes (or properties) are like states, aspects, that they are conceptualized as processes like others.

In both cases, trouble is being attributed to me, and in both cases, trouble is metaphorically conceptualized as being in the same place as me (co-located) — in one case, because I possess the trouble-object and in the other case, because I am in the trouble-location. That is, attribution in both cases is conceptualized

I have trouble. (Trouble is an object that is possessed)

We can see the duality somewhat more clearly with a word like "double":

The aspirin took away my headache. (Causation is taking - motion from)

My headache went away. (Change is loss, memory gain.)

I got a headache. (Change is acquisition - motion to  
My headache went away. (Change is loss - motion

I have a headache. (The headache is a possession)

In addition, the object in motion is considered as a possessed object and the thing-changing as a possessor. Change is thus seen as the acquisition or loss of an object. Causation is seen as giving or taking. Here are some examples:

- In the location system, change is the motion of the thing-changing to a new location or from an old one.
- In the object system, the thing-changing doesn't necessarily move. Change is instead the motion of an object to, or away from, the thing-changing.

The event structure system that we have seen so far is based wholly on location. But there is another event structure system that we have seen so far is based wholly on motion. In both systems, CHANGE IS MOTION and CAUSES ARE FORCES that control motion. The have just discussed - a system based on objects rather than locations. In both systems, CHANGE IS MOTION and CAUSES ARE FORCES that control motion. The difference is this:

In our discussion of time metaphors, we noted the existence of an object/location duality. There were two related time metaphors. In both, the passage of time was understood in terms of relative motion between an observer and a time. In the object-dual, the observer is fixed and times are moving objects. In the location-dual, the opposite is true. The observer moves and times are fixed locations.

#### 4.2. Duality in the event structure system

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Here, too, the words do not tell us that an individual toe corresponds to an individual key on the keyboard. The words are prompts for us to perform a conceptual mapping.

(Rabelais *The Descriptions of King Lent*, trans. J. M. Cohen)  
His toes were like the keyboard of a spinet.

This is a superimposition of the image of an hourglass onto the image of a woman's waist by virtue of their common shape. As before, the metaphor is conceptual; it is not in the words themselves, but in the mental images. Here, we have a mental image of an hourglass and of a woman, and we map the middle of the hourglass onto the waist of the woman. Note that the words do not tell us which part of the hourglass to map onto the waist, or even that only part of the hourglass shape corresponds to the waist. The words are prompts for us to map one conventional image to another. Similarly, consider:

My wife . . . whose waist is an hourglass.

Metaphoric image mappings work in the same way as all other metaphoric mappings: by mapping the structure of one domain onto the structure of another. But here, the domains are conventional mental images. Take, for example, this line from André Breton:

But here, the domains are conventional mental images. Take, for example, this line from André Breton:

Here the image of the slow, sinuous, shimmering flow of a river. The shimmering of a school of fish is imagined as the shimmering of the belt.  
(Merwin and Masson 1981: 71)

at dawn after a night with their lovers  
move unburned as women in love  
belied with silver fish  
Now women-trivers

Consider, for example, this poem from the Indian tradition:

move unburned as women in love  
belied with silver fish  
Now women-trivers

These are kinds of metaphors that function to map one conventional image onto another. These contrast with the metaphors I have discussed so far, each of which maps one conceptual domain onto another, often with many concepts in the source domain mapped onto many corresponding concepts in the target domain. Image metaphors, by contrast, are "one-shot" metaphors: they map only one image onto one other image.

5.1. Image metaphors

These are among the classic inferential conditions on causation: spatial continguity, temporal precedence, and that A caused B only if B would not have happened without A.

To look for independent confirmation of the Invariance Principle, let us turn to image metaphors.

Image-based reasoning is fundamental and abstract reasoning is image-based reasoning under metaphysical projections to abstract domains.

— Abstract reasoning is a special case of image-based reasoning.

I have taken the trouble to discuss these abstract concepts to demonstrate this consequence of the Invariance Principle: what have been seen in the past as propositional inferences are really image-based inferences. If the Invariance Principle is correct, it has a remarkable consequence:

— So-called propositional inferences arise from the inherent topological structure of the image-schemes mapped by metaphor onto concepts like time, states, changes, causes, purposes, quantity scales, and categories. If all these abstract concepts are characterized metaphorically, then the Invariance Principle claims that what we had called propositional structure is really image-schematic structure. In other words:

that a complex propositional structure could be mapped by metaphor onto another domain. The main example we gave was ARGUMENT IS WAR. Kovacecs and I, in our analysis of anger metaphors (Lakoff 1987; case study 1; Kovacecs 1990), also argued that metaphors could map complex propositional structures. The Invariance Principle does not deny this, but it puts those claims in a very different light. Complex propositional structures involve concepts like time, states, changes, causes, purposes, quantity scales, and categories. If all these abstract concepts are characterized metaphorically, then the Invariance Principle does not deny this, but it puts those claims in a very different light. Complex propositional structures involve concepts like time, states, changes, causes, purposes, quantity scales, and categories. If all these abstract concepts are characterized metaphorically, then the Invariance Principle claims that what we had called propositional structure is really image-schematic structure. In other words:

At this point, I would like to take up the question of what else the Invariance Principle would buy us. I will consider two cases that arose while Mark Turner and I were writing *More Than Cool Reason* (Lakoff and Turner 1989). The first concerns image-metaphors and the second, generic-level metaphors. But before I move on to those topics, I should mention an important consequence of my argument in *Metaphors We Live By* (Lakoff and Johnson 1980) that a complex propositional structure could be mapped by metaphor onto another domain and I argued in *Metaphors We Live By* (Lakoff and Johnson 1980) that a complex propositional structure could be mapped by metaphor onto another domain. The main example we gave was ARGUMENT IS WAR. Kovacecs and I, in our analysis of anger metaphors (Lakoff 1987; case study 1; Kovacecs 1990), also argued that metaphors could map complex propositional structures. The Invariance Principle does not deny this, but it puts those claims in a very different light. Complex propositional structures involve concepts like time, states, changes, causes, purposes, quantity scales, and categories. If all these abstract concepts are characterized metaphorically, then the Invariance Principle claims that what we had called propositional structure is really image-schematic structure. In other words:

These are among the classic inferential conditions on causation: spatial continguity, temporal precedence, and that A caused B only if B would not have happened without A.

In studying a wide variety of poems about death in English, we found that, in poem after poem, death was personified in a relatively small number of ways: drivers, coachesmen, footmen; reapers, devourers and destroyers, or opponents in a struggle or game (say, a knight or a chess opponent). The question we asked was: why these? Why isn't death personified as a teacher or a carpenter or an ice cream salesman? Somehow, the ones that occur repeatedly seem appropriate. Why?

### 5.2.1. Personification

When Turner and I were writing *More Than Cool Reason*, we hypothesized that the existence of what we called "generic-level metaphors" to deal with two problems faced — first, the problem of personification and second, the problem of verbs, which requires an understanding of analogy. I shall discuss each in turn.

### 5.2. Generic-level metaphors

Tumer and I (Lakoff and Turner 1989) have suggested that the invariantive Primitivity and Image-schematic Structure, mapping parts onto parts and wholes onto wholes, images are structured by image-schemes and that image metaphors preserve image-schematic structure, mapping parts onto parts and wholes onto wholes, containers onto containers, paths onto paths, and so on. The generalization would be that all metaphors are invariant with respect to their cognitive topology, that is, each metaphorical mapping preserves image-schema structure.

- How do they work? What constraints does the mapping? What kinds of internal structures do mental images have that permit some mappings to work readily, others only with effort, and others not at all?
  - What is the general theory of metaphor that unifies image metaphors with all the conventional metaphors that map the propositional structure of one domain onto the propositional structure of another domain?

Image metaphors raise two major issues for the general theory of metaphor:

my horse whose tail is like a trailing black cloud.

whose body is an eagle-plumed arrow;

my horse whose legs are like quick lightening

With his helmet like a fine eagle plume;

My horse with a hoof like a striped agate,

# *Chap*

The structure of a rainbow, its band of curved lines for example, is mapped onto an arc of curved hair, and many rainbows onto many such arcs on the horse's mane. Such image mapping allows us to map our evaluation of the source domain onto the target. We know that rainbows are beautiful, special, inspiring, larger than life, almost mystic, and that seeing them makes us happy and inspires us with awe. This knowledge is mapped onto what we know of the horse: it too is awe-inspiring, beautiful, larger than life, almost mystic. This line comes from a poem containing a series of such image mappings:

(War God's Horse Song I, words by Tall Kila shni, interpreted by Louis Watchman)

Such mappings of one image onto another can lead us to map knowledge about the first image onto knowledge about the second. Consider the following example from the Navaho:

Other attributes are also mapped: the color of the sand bank onto the color of flesh, the quality of light onto a wet sand bank onto the reflectiveness of skin, the lighting of grazing onto the water's touch receding down the bank onto the light grazing along the skin. Notice that the words do not tell us that any clothing is involved. We get that from a conventional mental image. Part-whole detail in the images limits mappings to highly specific cases. That is what bank just as the clothing covers the hidden part of the body. The proliferation of structure is also mapped in this example. The water covers the hidden part of the bank just as the clothing covers the hidden part of the body.

Image mapping can involve more than mapping physical part-whole relations. For example, the water line of a river may drop slowly and that slowness is part of a dynamic image, which may be mapped onto the slow removal of ships. For example, the water line of a river may drop slowly and that slowness is part of a dynamic image, which may be mapped onto the slow removal of ships. For example, the water line of a river may drop slowly and that slowness is part of a dynamic image, which may be mapped onto the slow removal of ships.

mapping between conventional mental images. In particular, we map aspects of the part-whole structure of one image onto aspects of the part-whole structure of another. Just as individual keys are parts of the whole keyboard, so individual

This specific knowledge scheme about the ditch is an instance of a general knowledge schema, in which specific information about the ditch are absent. Let us refer to it as the "generic-level schema" that structures our knowledge of the world. That generic level knowledge schema is:

- He blames the situation, rather than his own incapacity.
- Falling into the ditch.
- His inability to see the ditch, results in a negative consequence, namely, his fall into the ditch.
- He encounters a situation, namely a ditch, in which his incapacity, namely blindness, blinds him.
- There is a person with an incapacity, namely, blindness.

Suppose a president candidate knows very little about politics and has some personal improve-  
ment (though not illegal and not related to political issues) and his candidacy  
is destroyed by the press's reporting of the impropriety. He blames the press  
for reporting it, rather than himself for committing it. We think he should have  
recognized the realities of political press coverage when he chose to commit  
the impropriety. We express our judgment by saying, "Blind/blames the ditch."

Turner and I (1989) observed that the knowledge used in comprehend-  
ing the case of the candidate's impropriety shared certain things with knowledge  
structure used in comprehending the literal interpretation of "Blind/blames the  
ditch." That knowledge structure is the following:

To get some sense of the possible range of interpretations, consider the following application of the proveby:

Consider the following example from *Asian Figures*, translated by William Merwin.  
Blimd blames the ditch

### 5.2.2. Proverbs

The preservation of generic-level structure explained why death is not meta-phorized in terms of teaching, or filling the bathtub, or sitting on the sofa. These actions do not have the same causal and overall event structure, they do not share „generic-level structure.“

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Recalling Mr. Urmet's observation about causation is PROGENERATION, we therefore hypothesized that EVENTS ARE ACTIONS is constrained in the following way: the action must have the same overall shape as the event. What is preserved across the mapping is the causal structure, the aspectual structure, and the persistence of entities. We referred to this as "generic-level structure."

Thus, for example, we can speak of Saussure as the father of modern syntactic, or of New Orleans as giving birth to jazz. But we cannot use this metaphor for a single causal action with a short-lived effect. We could not speak of Jose Canseco as the father of the home run he just hit, or of that home run as giving birth to the Oakland A's victory in the game. We could, however, speak of Babe Ruth as the father of modern home run hitting, and of home runs giving birth to the era of baseball players as superstars. The overall event shape of the target domain limits the applicability of the metaphor.

Turmer (1987) had noticed a similar case in *Death Is the Mother of Beauty*, his classic work on kinship metaphor. In expressions like necessity is the mother of invention, or Edward Teller was the father of the H-bomb, causation is understood in terms of giving birth or fathering, what Turmer called the causation is progeneration metaphor. But, as he observed (Turmer 1987: 145-148), this metaphor could not be used for just any instance of causation. It could only be used for cases that had the overall event shape of progeneration: something must be created out of nothing, and the thing created must persist for a long time (as it had a life).

Destroying and devouring are actions in which an entity ceases to exist. The same is true of death. The overall shape of the event of death is similar in respect to the overall shapes of the events of destroying and devouring. More over, there is a causal aspect to death: the passage of time will eventually result in death. Thus, the overall shape of the event of death has an entity that over time ceases to exist as the result of some cause. Devouring and destroying have the same overall event shape. That is, it is the same with respect to causal structure and the properties of entities over time.

actions by some agent (like a reaper). It is thus hypothesized a very general metaphor, EVENTS ARE ACTIONS, which combines with other, independently existing metaphors for life and death. Consider, for example, the DEATH IS DEPARTURE metaphor. Departure is an event. If we understand this event as an action on the part of some causal agent - someone who brings about this or helps to bring about, departure - then we can account for figures like drivers, coaches, footmen, and so forth. Take the PEOPLE ARE PLANTS metaphor. In the natural course of things, plants wither and die. If we see that event as a causal action on the part of some agent, that agent is a reaper. So far, so good. But why does destroyers and devourees? And what about the impossible cases?



### 5.5. More on novel metaphor

At the same time most of the chapters in Orlony (1993 [1979]) were written (the late 1970s), "metaphor" was taken to mean "novel metaphor"; since the huge system of conventional metaphor had barely been noticed. The authors therefore never took up the question of how the system of conventional metaphor functions in the interpretation of novel metaphor. We have just seen one such example. Let us consider some others.

As common as novel metaphor is, its occurrence is rare by comparison with conventional metaphor, which occurs in most of the sentences we utter. Our everyday metaphor system, which we use to understand concepts as commonplace as time, state, change, causation, purpose, and so forth is constantly active, and is used maximally in interpreting novel metaphorical uses of language. The problem with all the older research on novel metaphor is that it completely missed the major contribution played by the conventional system.

As Turner and Lakoff (1989), there are three basic mechanisms for interpreting linguistic expressions as novel metaphors: extensions of conventional metaphors, generic-level metaphors, and image metaphors. Most interesting poetic metaphor uses all these superimposed on one another. Let us begin with examples of extensions of conventional metaphors. Dante begins

The major contribution played by the conventional system.

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As Turner and I discussed in detail (Lakoff and Turner 1989), there are three basic mechanisms for interpreting linguistic expressions as novel metaphors: extensions of conventional metaphors, generic-level metaphors, and image metaphors. Most interesting poetic metaphor uses all these superimposed on one another. Let us begin with examples of extensions of conventional metaphors. Dante begins

I mention this example because of the claim by Glucksberg and Keyser (1993) that metaphor is simply a matter of categorization. In personal correspondence, however, Glucksberg has written, "We assume that people can judge and can also infer that certain basic level entities, such as jails, typify or are emblematic of a metaphorical attribute category such as 'jail'.<sup>1</sup> This is, how it is possible for one kind of thing 'metaphorically attributable category' – that is, how it is possible to have such a 'metaphor'?" Glucksberg and Keyser give no theory of how it is possible to have such a 'metaphor'.

### 3.4. The Glucksberg-Keyser Claim

A good example of how the rest of the metaphor system interacts with GENERIC is the well-known example of Glucksberg and Keyser (1993), my job is a jail. First, the knowledge schema for a jail includes the knowledge that a jail imposes extreme physical constraints on a prisoner's movements. The GENERIC imposes extreme physical constraints on Y's movements. But now two additional metaphors apply to this generic-level schema: The event structure metaphor, with the submetaphor ACTIONS ARE SELF-PROPELLED MOVEMENTS, and PSYCHOLOGICAL FORCE IS PHYSICAL FORCE. These metaphors map "X imposes extreme physical constraints on Y's movements" into "X imposes extreme physical constraints on Y's movements" into "X imposes extreme psychological constraints on Y's actions". The statement my job is a jail imposes extreme psychological constraints on my actions." Thus, the mechanism for understanding my job is a jail uses very common, independently existing metaphors: GENERIC IS SPECIFIC, PSYCHOLOGICAL FORCE IS PHYSICAL FORCE, and NISIM FOR UNDERSTANDING MY JOB IS A JAIL USES VERY COMMON, INDEPENDENTLY EXISTING METAPHORS.

- A knowledge schema for the blind man and the ditch
  - A knowledge schema concerning Gary Hart
  - The generic is specific metaphor

The second example of Seale's I will consider is Sally is a block of ice. Here there is a conventional metaphor that AFFECTION is WARMTH, as in ordinary sentences like she's a warm person, he was cool to me, and so forth. A block of ice evokes the domain of temperature and, since it is predicated of a person, it also evokes kinds of knowledge of what a person can be. Jointly, both kinds of knowledge activate AFFECTION IS WARMTH. Since a block of ice is something very cold and unaffectionate and not able to become affectionate quickly or easily, Sally is being very warm and quickly or easily, this knowledge is mapped onto Sally as being very mon knowledges and a conventional metaphor we all have is all that is needed.

Finally, Seale discusses the hours crept by as we waited for the plane. Here we have a verb of motion predicated of a time expression; the former activates the knowledge about motion through space and the latter activates the time domain. Jointly, they activate the TIME-AS-MOVING-OBJECT mapping. Again the meaning of the sentence follows only from everyday knowledge and the everyday system

This could be taken nonmetaphorically, but it's most likely metaphorical interpretation is via the CAREER as a JOURNEY metaphor. This metaphor is evoked primarily by source domain knowledge about pole climbing, which is effortful, self-propelled, destination-oriented motion upward, and knowledge that the metaphor involves effortful, self-propelled, destination-oriented motion upward. Part of the knowledge evoked is that the speaker is as high as he can get on that particular pole, that the pole was difficult to climb, that the climb probably involved backward motion, that it is difficult for someone to stay at the top of a greasy pole, and that he will most likely slide down again. The CAREER is a JOURNEY metaphor maps this knowledge onto career, it probably involved some temporary loss of status along the way, it will be difficult to maintain this position, and he will probably lose status before long. All this follows with nothing more than the conventional CAREER-as-JOURNEY mapping, which we all share as part of our metaphorical systems, plus knowledge about climbing greasy poles.

I will not pursue discussion of other more complex poetic examples, since they require lengthy treatment which can be found in Lakoff and Turner (1989), Turner (1987), and Turner (1991). Instead, I will confine myself to discussing three examples from John Seale (1993). Consider first Disraeli's remark, "I have climbed to the top of the greasy pole".

### 5.6. Searle's theory

Since Frost's language often does not overtly signal that the poem is to be taken metaphorically, incompetent English teachers occasionally teach Frost as if he were a nature poet, simply describing scenes. (I have actually had students whose high school teachers taught them that!) Thus, this passage could be read non-metaphorically as being just about a trip on which one encounters a crossroads. There is nothing in the sentence itself that forces one to a metaphorical interpretation. But, since it is about travel and encountering crossroads, it evokes a journey, and further, how life and careers can also be understood as one-person journeys (love relationships, involving two travelers, are ruled out here). The poem is typically taken as being about life and a choice of life goals, though it might also be interpreted as being about career paths, or about some long-term, purposeful activity. All that is needed to get the requisite range of interpretations is the structure of conventional metaphors discussed above, and apply to the knowledge structure yielded by the appropriate inferences. No special mechanisms are needed.

Two roads diverge in a wood, and I -  
Took the one less traveled by,  
And that has made all the difference.

"Life's road" evokes the domain of life and the domain of travel, and hence the conventional life is a journey metaphor that links them, "[I] found myself in a dark wood" evokes the knowledge that if it's dark you cannot see which way to go. This evokes the domain of seeing, and thus the conventional metaphor that KNOWING IS SEEING, as in I see what you're getting at, this claimis aren't clear, the passage is opaque, and so forth. This entails that the speaker doesn't know which way to go. Since the life is a JOURNEY metaphor specificities doesn't know without direction in his life. All this uses nothing but the system of conventional metaphor, ordinary knowledge structure evoked by the conventional meaning of sentence, and inference based on that knowledge structure.

Another equally simple case of the use of the conventional system is Robert Frost's

In the middle of life's road  
I found myself in a dark wood.

cases, which go beyond real experience: in *prices rose there is no correspondence in terms of verticality* makes sense because of a regular correspondence in so many other cases.

Consider another case. What is the basis of the widespread KNOWING is seeing metaphor, as in *expressions like I see what you're saying*; this answer was clear; this paragraph is murky; he was so blinded by ambition that he never noticed his limitations? The experience initial basis in this case is the fact that most of what we know comes through vision, and in the overwhelming majority of cases, if we see something, then we know it is true.

In real experience between quantity and verticality, but understanding quantity in terms of verticality makes sense because of a regular correspondence in so many other cases.

Consider still another case. Why, in the Event Structure Metaphor, is achieving a purpose understood as reaching a destination (in the location subsystem) and as acquiring some object (in the object subsystem)? The answer again seems to be correspondences in everyday experience. To achieve most of our everyday purposes, we either have to move to where the sunshines is, And if you want to write down a note, you have to move to where the sunshines is. And if you want to be in the sunshines, you have to move to where the sunshines is. And if you object. If you want a drink of water, you've got to go to the water fountain. If you between achieving purposes and either reaching destinations or acquiring objects is so utterly common in our everyday existence, that the resulting metaphor is complete natural.

But what about the mapping basis of a PURPOSEFUL life is a JOURNEY? Recall that the mapping is in an inheritance hierarchy, where life goals are special cases of purposes, which are destinatations in the event structure metaphor. Thus, bases inderictly from a mapping higher in the hierarchy.

Experiential bases motivate metaphors, they do not predict them. Thus, not every language has a more is UP metaphor, though all human beings experience a correspondence between more and up. What this experimental basis does predict is that no language will have the opposite metaphor less is UP. It also predicts that a speaker of a language without that metaphor will be able to learn it much more easily than its reverse.

## 6.1. Realizations of metaphor

Consider objects like thermometers and stock market graphs, where increases in temperature and prices are represented as being up and decreases as being down. These are objects created by humans to accord with the more is UP metaphor.

Contemporarily theorists postulates that the more is UP metaphor is grounded in the reverse is true, where MORE is DOWN and LESS is UP. Why not? There are other languages in which more fluid into a container is every higher. These are thoroughly pervasive experiences to a pile and seeing the pile get and seeing the level go up, or adding more things to a pile and seeing the pile get experience — in the common experiences of pouring more fluid into a container of homelss people is very high.

Take a simple case: the more is UP metaphor, as seen in expressions like prices rose; his income went down; unemployment is up; exports are down; the number rather than in the realm of scientific results.

Perhaps the deepest question that any theory of metaphor must answer is this: why do we have the conventional metaphor that we have? Or alternatively, is there any reason why conceptual systems contain one set of metaphorical mappings rather than another? There do appear to be answers to these questions for many of the mappings found so far, though they are in the realm of plausible accounts, rather than another?

Event Structure Metaphor. The novel metaphor of a language are, except for metaphors — conventional mappings from one domain to another, such as the conceptual system underlying a language contains thousands of conceptual

## 6. The experiential basis of metaphor

in real experience form the basis for the correspondences in the metaphorical day of our lives. They have structure — a correspondence between the conceptual domain of quantity and the conceptual domain of verticality: more corresponds to up and less corresponds to down. These correspondences in the metaphorical day of our lives are thoroughgoing more things to a pile and seeing the pile get and seeing the level go up, or adding more fluid into a container is every higher.

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linguisitics and in the domain of principles of language use. The study of the conceptual subsystem of our conceptual system is a central part of synchronic linguistics because much of our semantic system, the whole literature of the field.

In addition, Seale's account of literal meaning makes most of the usual false examples of conventional metaphor described not only in this chapter, but in the ventional language is literal and not metaphorical. He would thus rule out every assumption that accompanies that term. Seale assumes that all everyday, con-

ceptual language is metaphorical, as we saw above. Because this huge system went unnoticed prior to 1980, authors like Seale, Sadock, and Morgan could claim, incorrectly as it turns out, that metaphor was outside of synchronic linguistics and in the domain of principles of language use.

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The unconscious mind makes use of our unconscious system of communication - phor, sometimes to express psychological states in terms of physical symptoms. For example, in the event structure metaphor, there is a surprising difficulty ARE IMPEDIMENTS TO MOTION which has, as a special case, difficulties ARE BURDENS. It is fairly common for someone encountering difficulties to walk with his shoulders stooped, as if carrying a heavy weight that is burdening him.

### 6.1.6. *Physical symptoms*

In the event structure metaphor, there is a submapping EXTERNAL EVENTS ARE LARGE MOVING OBJECTS that can exert a force on you and thereby affect whether you achieve your goals. In English the special cases of such objects are "things," fluids, and horses. Pamela Morgan (in unpublished work) has observed that in Greek mythology, Poseidon is the god of the sea, earthquakes, horses, and bulls. The list might seem arbitrary, but Morgan observes that these are all large moving objects that can exert a force on you. Posedion, she surmises, should really be seen as the god of external events.

6.1.5. Myths

growing after them. The whited ears devour the good ears. Joseph interprets the two dreams as a single dream. The seven fat cows and full ears are good years and the seven lean cows and withered ears are famine years that follow the good years. The famine years devour what the good years produce. This interpretation makes sense to us because of a collection of conceptual metaphors in our conceptional system — metaphors that have been with us since biblical times. The first metaphor is TIMES ARE MOVING ENTITIES. A river is a common metaphor for the flow of time; the cows are individual entities (years) emerging from the flow into the scene. The second metaphor is ACTIVATING A PURPOSE IS EATING, where being fat indicates success, being lean indicates failure. This metaphor is common with the most common metaphor of meat and grain eaten, each single cow stands for all the cows raised in a year and each ear of corn for all the corn grown in a year. The final metaphor is RESOURCES ARE FOOD, where using up resources is eating food. The devouring of the good years by the famine years is interpreted as indicating that all the surplus resources of the good years will be used up by the famine years. The interpretation of the whole dream is thus a composition of three conventional metaphors and one metonymy. The metaphoric and metonymic sources are combined to form the reality of the dream.

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Conceputual metaphors constitute the vocabulary of dream interpretation. The collection of our everyday conceptual metaphors makes dreams interpretation possible. Consider one of the most celebrated of all examples, Joseph's interpretation of Pharaoh's dream from Genesis. In Pharaoh's dream, he is standing on the river bank when seven fat cows come out of the river, followed by seven lean cows that eat the seven fat ones and still remain lean. Pharaoh dreams again. This time he sees seven "full and good" ears of corn growing and then seven withered ears

#### 6.1.4. Dream interpretation

Consider the cultural ritual in which a newborn baby is carried upstream to ensure his or her success. The metaphor reallized in this ritual is that if you climb the ladder of success, you'll rise in the world.

### 6.1.3. Rituals

It is common for the plot of a novel to be a realization of the purposeful life journey. *Pilgrim's Progress* is a classic example.

### 6.1.2. Literary works

Conventional metaphors are real in cartoons. A common example is the realization of the ANGER IS A HOT FLUID IN A CONTAINER metaphor, in which one can be boiling mad or letting off steam. In cartoons, anger is commonly depicted by steam coming out of the character's ears. Social clumsiness is indicated by having a cartoon character fall on his face.

6.1.1. Cartoons

There are a great many ways in which conventional metaphors can be made real. They can be realized in obvious imaginative products such as cartoons, literary works, dreams, visions, and myths, but they can be made real in less obvious ways as well, in physical symptoms, social institutions, social practices, laws, and even foreign policy and forms of discourse and history.

Let us consider some examples.

Such objects are ways in which metaphors impose a structure on real life, selected as down and decreases as up. Understood than if they contradicted the metaphor, it, say, increases were represented through the creation of new correspondences in experience. And once created in one generation, they serve as an experiential basis for that metaphor in the next.

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### 3.1.11. Forms of discourse

Common metaphors are often made of academic discourses forms: the heroic quest, the heroic battle, and the heroic adventure. The guided tour is based on the metaphor that thought is motion, where ideas are often made of locations and one reason step-by-step, reaches conclusions, or details to reach a conclusion if engaged in circular reasoning. Some metaphor is giving someone a guided tour of some rational argument or of some terrain and the terrain surveyed is taken as a guide tour, where some intellectual terrain. This essay is an example of such a guided tour, where this metaphor is based on the metaphor that argument is war. The form of the heroic battle is based on the metaphor that argument is war. The author's theory is the hero, the opposing theory is the villain, and words are used to defend the hero's position. The battle is in the form of an argument defining the hero's position and demolishing that of the villain. The heroic quest discourses and the demolishing real is in each case of metaphors is that in each case some thing real is structured by conventional metaphors, and thereby made comprehendible, or even natural. What is real differs in each case: an object like a thermometer, or graph, an experience like a dream, an action like a ritual, a form of discourse, and so forth. These examples reveal that much of what is real in a society or in the experience of an individual is structured and made sense of via conventions in metaphors.

### 6.1.7. Social institutions

There is a conceptual metaphor that SEEING IS TOUCHING, where the eyes are like limbs and vision is achieved when the object seen is „touched”. Examples are: my eyes picked out every detail of the pattern; he ran his eyes over the walls; he couldn't take his eyes off her; their eyes met; his eyes are glued to the TV. The metaphor is made real in the social practice of avoiding eye „contact” on the street, and it is made real in certain American law, which not only enables corporations to be harmed or assigned responsibility so they can be sued when liable, but also gives them certain First Amendment rights.

### 6.1.9. Laws

LAW is a major area where metaphor is made real. For example, CORPORATIONS ARE PERSONS is a tenet of American law, which not only enables corporations to be held responsible for acts of hostility and strength, and so forth. Health for a state is economic health and strength is military strength. A threat to economic concepts. Thus, there are friendly states, hostile states, and so forth. Health for a state can be seen as a death threat, as when Iraq was seen to have a strange- and weak states as female, so that an attack by a strong state on a weak one be seen as a rape, as in the rape of Kuwait by Iraq. A just war is conceptualized as a fair trial with villain, victim, and hero, where the villain attacks the victim and the hero rescues the victim. Thus, the United States and allies in the Gulf War were portrayed as having rescued Kuwait. As President Bush said in his address to Congress, „The issues couldn't have been clearer: Iraq was the villain and the hero is the victim.”

### 6.1.8. Social practices

We have a time is money metaphor, shown by expressions like he's wasting time; I have to budget my time; this will save you time; I've invested a lot of time in that; he doesn't use his time profitably. This metaphor came into English use about the time of the industrial revolution, when people started to be paid for work by the amount of time they put in. Thus, the factory led to the institutional pairing of periods of time with amounts of money, which formed the experimental basis of this metaphor. Since then, the metaphor has been realized in many other ways.

6.1.10. Foreign policy

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6.1.9. LAMS

There is a conceptual metaphor that SEEING IS TOUCHING, where the eyes are limbs and vision is achieved when the object seen is "touched". Examples are: my eyes picked out every detail of the pattern; he ran his eyes over the walls; he couldn't take his eyes off her; their eyes met; his eyes are glued to the TV. The metaphor is made real in the social practice of avoiding eye "contact" on the street, and in the social prohibition against "undressing someone with your eyes".

## 7.1. The nature of metaphor

- | 7.1. The nature of metaphor   | 7.2. The structure of metaphor   | 7.3. Some aspects of metaphor   |
|---|--|---|
| <p>Metaphor is the main mechanism through which we comprehend abstract concepts and perform abstract reasoning.</p> <p>Much metaphor is used to understand the most abstract matter – the way we act on that understanding.</p> <p>Conventional mappings are static correspondences, and are not, in themselves, static or linguistic, in nature.</p> <p>Metaphor is mostly based on correspondences in our experiences, rather than on similarity.</p> <p>The metaphor system plays a major role in both the grammar and lexicon of a language.</p> <p>Metaphorical mappings vary in universality; some seem to be universal, others are widespread, and some seem to be culture specific.</p> <p>Poetic metaphor is, for the most part, an extension of our everyday, conventional system of metaphorical thought.</p> <p>These are the conclusions that best fit the empirical studies of metaphor conducted over the past decade or so. Though many of them are inconsistent with traditional views, they are by no means all new, and some ideas – for example, that abstract concepts are comprehended in terms of concrete concepts – have a long history.</p> <p>The evidence supporting the contemporary theory of metaphor is voluminous and grows larger each year as research in the field continues. The evidence, as we saw above, comes from five domains:</p> <ul style="list-style-type: none"> <li>- Generalizations over polysemy</li> <li>- Generalizations over inference patterns</li> <li>- Generalizations over semantic change</li> <li>- Psycho-linguistic experiments</li> <li>- Have discussed only a handful of examples of the first three of these, enough, I hope, to make the reader curious about the field.</li> </ul> | <p>Metaphors are cross-conceptual domains.</p> <p>Metaphor allows us to understand a relatively abstract or inherent subject matter in terms of a more concrete, or at least more structured subject matter.</p> <p>Metaphor is a surface manifestation of conceptual metaphor.</p> <p>Metaphorical language is a static correspondence between entities in a source domain and entities in a target domain.</p> <p>When those fixed correspondences are activated, mappings can project source domain inferences onto target domain schema.</p> <p>Metaphorical mappings obey the Invariance Principle: The image-schema structure of the source domain is projected onto the target domain in a way that is consistent with inherent target domain structure.</p> <p>Mappings are not arbitrary, but grounded in everyday experience and knowledge.</p> <p>A conceptual system contains thousands of conventional metaphorical mappings which form a highly structured subsystem of the conceptual metaphor system.</p> <p>Three are two types of mappings: conceptual mappings and image maps – both obey the Invariance Principle.</p> | <p>Evidence is convincing, however, only if it can count as evidence. When does evidence fail to be evidence? Unfortunately, all too often, it is common that the case that certain fields of inquiry are defined by assumptions that rule out the possibility of counter-evidence. When a definition assumes that rule out the case that certain fields of inquiry are defined by assumptions that rule out the possibility of counter-evidence, the evidence usually loses: the practitioners of the field must</p> |
|   |  | <p>Our system of conventional metaphor is "alive" in the same sense that our term and the rest of our conceptual system.</p> <p>The system of conventional conceptual metaphor is mostly unconscious, automatic, and used with no noticeable effort, just like our linguistic system.</p> <p>Our system of conventional metaphor is "alive" in the same sense that our</p>  |

### 7.3. Some aspects of metaphor

- mapplings which form a highly structured subsystem of the conceptual mapping; both obey the Invariance Principle.

  - Generalizations over inferential patterns
  - Generalizations over extensions to poetic cases
  - Generalizations over semantic change
  - Psycholinguistic experiments

I have discussed only a handful of examples of the first three of these, enough, I hope, to make the reader curious about the field.

Evidence is convincing, however, only if it can count as evidence. When does evidence fail to be evidence? Unfortunately, all too often, it is commonly the case that certain fields of inquiry are defined by assumptions that rule out the possibility of counter-evidence. When a defining assumption of a field comes up against evidence, the evidence usually loses: the practitioners of the field must

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The system of conventional conceptual metaphor is mostly unconscious, automatic, and used with no noticeable effort, just like our linguistic system.

7.3. Some aspects of metaphor

We will begin with the philosophy of language. The generalization commitment is good reason. The philosophy of language would need to abide by them, for a very most philosophers of language are not committed to the philosophy of language. And the cognitive commitment are not, definitionally, to the philosophy of language. Part of what makes the contemporary theory of metaphor so interesting is that the evidence for it contradicts the defining assumptions of so many academic disciplines. In my opinion, this should make one doubt the defining assumptions of all those disciplines. The reason is this: the defining assumptions of the contemporary theory of metaphor are minimally. There are only two.

1. The generalization commitment: To seek generalizations in all areas of language, including polysemy, patterns of inference, novel metaphor, and semantic change.

2. The cognitive commitment: To take experimental evidence seriously.

But these are nothing more than commitments to the scientific study of language and the mind. No initial commitment is made as to the form of an answer to the question of what is metaphor.

The defining assumptions of other fields do, however, often entail a commitment about the form of an answer to that question. It is useful, in an interdisciplinary volume of this sort, to spell out exactly what those defining assumptions are, since they will often explain why different authors reach such different conclusions about the nature of metaphor.

I started this chapter with a list of the false assumptions about literal meaning that are commonly made. These assumptions are „false“ only relative to the kinds of evidence that support the contemporary theory of metaphor. If one ignores all such evidence, the assumptions can be maintained without contradiction.

8.1. Literal meaning commitments

Consequently, we can see why most philosophers of language have the range of that commitment, that they may, like M. Johnson (1981), say that there is no metaphorical meaning, and that most metaphorical utterances are either trivially true or trivially false. Or, like Grice (1989: 34) and Searle (1993), they will assume that metaphor is in the realm of pragmatics, that is, that a metaphorical meaning is no more than the literal meaning of some other sentence which can be arrived at by some pragmatic principle. This is required, since the only real meaning for them is literal meaning, and pragmatic principles are those principles that allow us to say one thing (with a literal meaning) and mean something else (with a different, but nonetheless literal, meaning).

Much of generative linguistics accepts one or more of these assumptions from the philosophy of language. The field of formal semantics accepts them all, and thus formal semantics, by its defining assumption, is at odds with the contention that the philosophy of language is literal. All everyday conventional language is literal, and none is metaphorical.

Only literal language can be comprehended literally, without metaphor. All subject matter can be comprehended literally, not metaphorical. The concepts used in the grammar of a language are all literal; none is metaphorical.

All definitions given in the lexicon of a language are literal, not metaphorical. The definitions given in the dictionary true or false.

All subjects can be comprehended literally, without metaphor.

All everyday conventional language is literal, and none is metaphorical.

the purview of the discipline. Thus Jeroold Sadock (1993) claims that metaphor is concerned with either nonexistent or nonexistent, since they lie outside of formal semantics, the phenomena that the contemporary theory of metaphor accounts for the generalizations discussed in this chapter. From the perspective of formal semantics, the theory of metaphor does not see it as its job to porray the theory of metaphor. Formal semantics simply does not see it as its job to thus formal semantics, by its defining assumption, is at odds with the contention that the philosophy of language is literal. All everyday conventional language is literal, and thus formal semantics accepts them all, and

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photocatal reading as output. This runs counter to cases where there are multiple, overlapping metaphors in a single sentence, and which require the simultaneous activation of a number of metaphorical mappings.

The contemporary theory of metaphor is thus not only interesting for its own sake. It is especially interesting for the challenge it presents to other disciplines. If the results of the contemporary theory are accepted, the defining assumptions from the philosophy of language that are inconsistent with the contemporary theory of metaphor is a matter of pragmatics.

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## Note

- Chomsky's (1981) theory of government and binding also accepts crucial assumptions from the philosophy of language that are inconsistent with the contemporary theory of metaphor. Government and binding my easily theory of metaphor by defining assumptions of the philosophy of language that are inconsistent with the contemporary theory of metaphor. Government and binding, following my earlier theory of metaphor, defines semantics outside of semantics proper. He must, therefore, also reject the enterprise of defining outside semantics of semantics proper. The mus, therefore, also agrees with Chomsky's (1981) theory of government and binding, following my earlier theory of metaphor, that metaphor is a matter of pragmatics.
- It is interesting that the much of contemporary philosophy and deconstructionism is everyday language is not metaphorical (see subsection "What is not metaphorical"). Much of contemporary philosophy also comes with a distinction between the study of the physical world, which can be scientific, and the study of human beings, which it says cannot be scientific. This is very much at odds with the conceptual theory of metaphor, which is very much a scientific enterprise.
- Finally, the contemporary theory of metaphor is at odds with certain traditions in symbolic intelligence and information processing psychology. Those fields assume that thought is a master of algorithmic symbol manipulation. This definition is of the sort done by a traditional computer program. This definition is inconsistent with the contemporary theory of metaphor in two respects.
- First, the contemporary theory has an image-schematic basis. The invariance principle both applies to image-schematic characters and characterizes constraints on novel metaphors. Since symbolic manipulation systems cannot handle image-schemas, they cannot deal with image metaphors or imageable idioms.
- Second, those traditions must characterize metaphorical mapping as an algo-

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Image schema

The cognitive psychological reality of image schemas  
and their transformations  
Raymond W. Gibbs, Jr. and Heber L. Colston

One of the most important claims of cognitive semantics is that much of our knowledge of the world is organized around static, propositional and sentential, but it is grounded in and structured by various patterns of perceptional interactions, bodily actions, and manipulations of objects (Johnson 1987, 1993; Lakoff 1987, 1990; Talmy 1988). These patterns are experienced initially as we manipulate objects, orient ourselves spatially and temporally, and act directly as we manipulate objects, orient ourselves spatially and temporally, and direct our perceptual focus for various purposes (Johnson 1991).

Among these are the schematic structures of CONTAINER, BALANCE, SOURCE-PATH-GOAL, PATH, CYCLE, ATTRACTION, CENTER/PERIPHERY, and LINK. These image schemas cover a wide range of experiential structures that are pervasive in experience, have internal structure, and can be metaphorically elaborated to provide for our understanding of more abstract domains. For example, cognitive metaphors, such as lake (Norvig and Lakoff 1987), as well as to explain the many kinds of cognitive relationships that can form the basis of the extension of a category such as Japanese hon (Lakoff 1987). More recent investigations from linguistic and philosophical perspectives, such as causation, death, and morality (Johnson 1993; Lakoff 1990; Lakoff and Turner 1989; Turner 1991).

Although these studies provide important evidence on image schemes in every-day thought and linguistic underwriting, the question remains as to whether there exists independent empirical evidence on the psychological reality of image metaphorical concepts, such as causation, death, and morality (Johnson 1993; Lakoff 1990; Lakoff and Turner 1989; Turner 1991).