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THE JOURNAL OF PHILOSOPHY

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CONCEPTUAL METAPHOR IN EVERYDAY LANGUAGE

UNTIL recently philosophers have tended to berate metaphor as irrational and dangerous, or to ignore it, reducing it to the status of a subsidiary problem in the philosophy of language. Literal language, assumed to be mutually exclusive with metaphor, has been taken to be the real stuff of philosophy, the domain where issues of meaning and truth arise and can be dealt with. At best, metaphor is treated as if it were always the result of some operation performed upon the literal meaning of the utterance. The phenomenon of "conventional metaphor," where much of our ordinary conceptual system and the bulk of our everyday conventional language are structured and understood primarily in metaphorical terms, has gone either unnoticed or undiscussed.

As we will show directly, conventional metaphors are pervasive in our ordinary everyday way of thinking, speaking, and acting. We feel that an understanding of conventional metaphor and the way that metaphor structures our ordinary conceptual system will ultimately provide a new "experientialist" perspective on classical philosophical problems, such as the nature of meaning, truth, rationality, logic, and knowledge. In this present paper we can only focus on the nature and role of metaphor in our conceptual system, with a few suggestions concerning the larger implications of our account.¹

I. CONCEPTS THAT WE LIVE BY

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish—a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought

¹ For a more comprehensive and thorough working out of the implications for several areas, especially philosophy and linguistics, see our *Metaphors We Live By* (Chicago: University of Chicago Press, 1980).

or action. For this reason, most people think they can get along perfectly well without metaphor. We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language, but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.

The concepts that govern our thought are not just matters of the intellect. They also govern our everyday functioning, down to the most mundane details. Our concepts structure what we perceive, how we get around in the world, and how we relate to other people. Our conceptual system thus plays a central role in defining our everyday realities. If we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor.

But our conceptual system is not something that we are normally aware of. In most of the little things we do every day, we simply think and act more or less automatically along certain lines. Just what these lines are is by no means obvious. One way to find out is by looking at language. Since communication is based on the same conceptual system in terms of which we think and act, language is an important source of evidence for what that system is like.

Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature. And we have found a way to begin to identify in detail just what the metaphors are that structure how we perceive, how we think, and what we do.

To give some idea of what it could mean for a concept to be metaphorical and for such a concept to structure an everyday activity, let us start with the concept of an ARGUMENT, and the conceptual metaphor ARGUMENT IS WAR. This metaphor is reflected in our everyday language by a wide variety of expressions:

ARGUMENT IS WAR

Your claims are *indefensible*.

He *attacked every weak point* in my argument.

His criticisms were *right on target*.

I *demolished* his argument.

I've never *won* an argument with him.

You disagree? Okay, *shoot!*

If you use that *strategy*, he'll *wipe you out*.

He *shot down* all my arguments.

It is important to see that we don't just *talk* about arguments in terms of war. We can actually win or lose arguments. We see the person we are arguing with as an opponent. We attack his positions and we defend our own. We gain and lose ground. We plan and use strategies. If we find a position indefensible, we can abandon it and take a new line of attack. Many of the things we *do* in arguing are partially structured by the concept of war. Though there is no physical battle, there is a verbal battle, and the structure of an argument—attack, defense, counterattack, etc.—reflects this. It is in this sense that we live by the ARGUMENT IS WAR metaphor in this culture; it structures the actions we perform in arguing.

Try to imagine a culture where arguments were not viewed in terms of war, where no one won or lost, where there was no sense of attacking or defending, gaining or losing ground. Imagine a culture where an argument is viewed as a dance, with the participants as performers, and the goal being to perform in a balanced and aesthetic way. In such a culture, people would view arguments differently, experience them differently, carry them out differently, and talk about them differently. But *we* would probably not view them as arguing at all. It would be strange even to call what they were doing "arguing." Perhaps the most neutral way of describing this difference between their culture and ours would be to say that we have a discourse form structured in terms of battle and they have one structured in terms of dance.

This is an example of what it means for a metaphorical concept, namely, ARGUMENT IS WAR, partially to structure what we do and how we understand what we do when we argue. *The essence of metaphor is understanding and experiencing one kind of thing or experience in terms of another.* It is not that arguments are a sub-species of wars. Arguments and wars are different kinds of things—verbal discourse and armed conflict—and the actions performed are different kinds of actions. But ARGUMENT is partially structured, understood, performed, and talked about in terms of WAR. The concept is metaphorically structured, the activity is metaphorically structured, and consequently, the language is metaphorically structured.

Moreover, this is the *ordinary* way of having an argument and talking about one. The normal way *for us* to talk about attacking a position is to use the words 'attack a position'. Our conventional ways of talking about arguments presuppose a metaphor we are hardly ever conscious of. The metaphor is not merely in the words we use—it is in our very concept of an argument. The language of

argument is not poetic, fanciful, or rhetorical, but rather literal. We talk about arguments that way because we conceive of them that way—and we act according to the way we conceive of things.

II. THE SYSTEMATICITY OF METAPHORICAL CONCEPTS

Arguments usually follow patterns; that is, there are certain things we typically do and do not do in arguing. The fact that we in part conceptualize arguments in terms of battle systematically influences the shape arguments take and the way we talk about what we do in arguing. Because the metaphorical concept is systematic, the language we use to talk about that aspect of the concept is systematic.

We saw in the ARGUMENT IS WAR metaphor that expressions from the vocabulary of war, e.g., 'attack a position', 'indefensible', 'strategy', 'new line of attack', 'win', 'gain ground', etc. form a systematic way of talking about the battling aspects of arguing. It is no accident that these expressions mean what they mean when we use them to talk about arguments. A portion of the conceptual network of battle partially characterizes the concept of an argument, and the language follows suit. Since metaphorical expressions in our language are tied to metaphorical concepts in a systematic way, we can use metaphorical linguistic expressions to study the nature of metaphorical concepts and to gain an understanding of the metaphorical nature of our activities.

To get an idea of how metaphorical expressions in everyday language can give us insight into the metaphorical nature of the concepts that structure our everyday activities, let us consider the metaphorical concept TIME IS MONEY as it is reflected in contemporary English:

TIME IS MONEY

You're *wasting* my time.
 This gadget will *save* you hours.
 I don't *have* the time to *give* you.
 How do you *spend* your time these days?
 That flat tire *cost* me an hour.
 I've *invested* a lot of time in her.
 I don't *have enough* time to *spare* for that.
 You're *running out* of time.
 You need to *budget* your time.
Put aside some time for ping pong.
 Is that *worth your while*?
 Do you *have* much time *left*?
 You don't *use* your time *profitably*.
 I *lost* a lot of time when I got sick.
Thank you for your time.

Time in our culture is a valuable commodity. It is a limited resource that we use to accomplish our goals. Because of the way that the concept of work has developed in modern Western culture, where work is typically associated with the time it takes and time is precisely quantified, it has become customary to pay people by the hour, week, or year. In our culture TIME IS MONEY in many ways: telephone message units, hourly wages, hotel room rates, yearly budgets, interest on loans, and paying your debt to society by serving time. These practices are relatively new in the history of the human race and by no means exist in all cultures. They have arisen in modern industrialized societies and structure our basic everyday activities in a very profound way. Corresponding to the fact that we *act* as if time were a valuable commodity, a limited resource, even money, so we *conceive* of time that way. Thus we understand and experience time as the kind of thing that can be spent, wasted, budgeted, invested wisely or poorly, saved or squandered.

TIME IS MONEY, TIME IS A LIMITED RESOURCE, and TIME IS A VALUABLE COMMODITY are all metaphorical concepts. They are metaphorical since we are using our everyday experience with money, limited resources, and valuable commodities to conceptualize time. This isn't a necessary way for human beings to conceptualize time; it is tied to our culture. There are cultures where time is none of these things.

The metaphorical concepts TIME IS MONEY, TIME IS A RESOURCE, and TIME IS A VALUABLE COMMODITY form a single system based on subcategorization, since in our society money is a limited resource and limited resources are valuable commodities. These subcategorization relationships characterize what we will call "entailment relationships" between the metaphors. TIME IS MONEY entails that TIME IS A LIMITED RESOURCE, which entails that TIME IS A VALUABLE COMMODITY. We can see the relationship in the following diagram:

MONEY	TIME IS MONEY
is	entails
A LIMITED RESOURCE	TIME IS A LIMITED RESOURCE
is	entails
A VALUABLE COMMODITY	TIME IS A VALUABLE COMMODITY

We are adopting the practice of using the most specific metaphorical concept, in this case TIME IS MONEY, to characterize the entire system, since TIME IS MONEY entails TIME IS A LIMITED RESOURCE and TIME IS A VALUABLE COMMODITY. Of the expressions

listed under the TIME IS MONEY metaphor, some refer specifically to money ('spend', 'invest', 'budget', 'profitably', 'cost'), others to limited resources ('use', 'use up', 'have enough of', 'run out of'), and still others to valuable commodities ('have', 'give', 'lose', 'thank you for'). This is an example of the way in which metaphorical entailments can characterize a coherent system of metaphorical concepts and a corresponding coherent system of metaphorical expressions for those concepts.²

III. METAPHORICAL SYSTEMATICITY: HIGHLIGHTING AND HIDING

The very systematicity that allows us to comprehend one aspect of a concept in terms of another (e.g., comprehending an aspect of arguing in terms of battle) will necessarily hide other aspects of the concept. In allowing us to focus on one aspect of a concept (e.g., the battling aspects of arguing), a metaphorical concept can keep us from focusing on other aspects of the concept which are not coherent with that metaphor. For example, in the midst of a heated argument, where we are intent on attacking our opponent's position and defending our own, we can lose sight of the more cooperative aspects involved in an argument. Someone who is arguing with you can be viewed as giving you his time, a valuable commodity, in an effort at mutual understanding. But when we are preoccupied with the battle aspects, we will most often lose sight of the cooperative aspects.

A far more subtle case of how a metaphorical concept can hide an aspect of our experience can be seen in what Michael Reddy³ has called the "conduit metaphor." Reddy observes that our language about language is structured roughly by the following complex metaphor: (i) ideas (or meanings) are objects; (ii) linguistic expressions are containers; (iii) communication is sending—the speaker puts ideas (objects) into words (containers) and sends them (along

² The account of systematicity and coherence we are developing may seem similar to Nelson Goodman's claim that metaphor involves a transfer in which "(a) label along with others constituting a scheme is in effect detached from the home realm of that scheme and applied for the sorting and organizing of an alien realm. Partly by thus carrying with it a reorientation of a whole network of labels does a metaphor give clues for its development and elaboration" [*Languages of Art* (Indianapolis: Bobbs-Merrill, 1968), p. 72]. Here Goodman comes down squarely on the side of those who view metaphor as a matter of language (that is, "labels") rather than as a matter of thought. We are at odds with Goodman on this, as well as other matters. For example, Goodman does not seem to regard most everyday conventional language as metaphorical. Nor, presumably, would he go along with our experientialist account of truth, in which truth is secondary to understanding (cf. our *Metaphors We Live By*, *op. cit.*).

³ "The Conduit Metaphor," in A. Ortony, ed., *Metaphor and Thought* (New York: Cambridge, 1979).

a conduit) to a hearer who takes the idea-objects out of the word-containers. Reddy documents this with over one hundred *types* of expressions in English, which he estimates account for at least seventy per cent of the expressions we use to talk about language. Here are some examples:

THE CONDUIT METAPHOR

It's hard to *get* that *idea* across to him.

I *gave* you that idea.

Your reasons *came through* to us.

It's difficult to *put* my ideas *into* words.

When you *have* a good idea, try to *capture* it immediately *in* words.

Try to *pack* more thought *into* fewer words.

You can't simply *stuff* ideas *into* a sentence any old way.

The meaning is right there *in* the words.

Don't *force* your meanings *into* the wrong words.

His words *carry* little meaning.

The introduction *has* a great deal of thought-*content*.

Your words seem *hollow*.

The sentence is *without* meaning.

The idea is *buried in* terribly dense paragraphs.

In examples like these it is far more difficult to see that there is anything hidden by the metaphor, or even to see that there is a metaphor here at all. This is so much the conventional way of thinking about language that it is sometimes hard to imagine that it might not fit reality. But if we look at what the conduit metaphor entails, we can see some of the ways in which it masks aspects of the communicative process.

First, the LINGUISTIC EXPRESSIONS ARE CONTAINERS FOR MEANINGS aspect of the metaphor entails that words and sentences have meanings in themselves, independent of any context or speaker. The MEANINGS ARE OBJECTS part of the metaphor, for example, entails that meanings have an existence independent of people and contexts. The part of the metaphor that says that LINGUISTIC EXPRESSIONS ARE CONTAINERS FOR MEANING entails that words (and sentences) have meanings, again independent of contexts and speakers. These metaphors are appropriate in many situations—those where context differences don't matter and where all the participants in the conversation understand the sentences in the same way. These two entailments are exemplified by sentences like "The meaning is *right there in* the words," which, according to the conduit metaphor, can correctly be said of any sentence. But there are many cases where context does matter. Here is a celebrated example re-

corded in actual conversation by Pamela Downing: "Please sit in the apple-juice seat." In isolation this sentence has no meaning at all, since the compound 'apple-juice seat' is not a conventional way of referring to any kind of object. But the sentence made perfect sense in the context in which it was uttered: An overnight guest came down to breakfast. There were four place settings, three with orange juice and one with apple juice. It was clear what the apple-juice seat was. And even the next morning, when there was no apple juice, it was still clear which seat was the apple-juice seat.

In addition to sentences that have no meaning without context, there are cases where a single sentence will mean different things to different people. Consider: "We need new alternative sources of energy." This means something very different to the president of Mobil Oil than it does to the president of Friends of the Earth. The meaning is not right there in the sentence—it matters a lot who is saying or listening to the sentence and what his social and political attitudes are. The conduit metaphor does not fit cases where context is required to determine whether the sentence has any meaning at all, and, if so, what meaning it has.

These examples show that the metaphorical concepts we have looked at provide us with a partial understanding of what communication, argument, and time are, and that in so doing they hide other aspects of these concepts. It is important to see that the metaphorical structuring involved here is partial, not total. If it were total, one concept would *be* the other, would not merely be understood in terms of it. For example, time isn't actually money. If you *spend your time* trying to do something and it doesn't work, you can't *get your time back*. There are no *time banks*. I can *give you a lot of time*, but you can't *give me back the same time*, though you can *give me back the same amount of time*. And so on. Thus, part of a metaphorical concept does not and cannot fit.

On the other hand, metaphorical concepts can be extended beyond the range of ordinary literal ways of thinking and talking into the range of what is called figurative, poetic, colorful, or fanciful thought and language. Thus, if ideas are objects, we can *dress them up in fancy clothes*, *juggle them*, *line them up nice and neat*, etc. So when we say that a concept is structured by a metaphor, we mean that it is partially structured, and that it can be extended in some ways but not others.

IV. TYPES OF METAPHOR: STRUCTURAL, ORIENTATIONAL, PHYSICAL

In order to see in more detail what is involved in the metaphorical structuring of a concept or system of concepts, it is useful to iden-

tify three basic domains of conceptual structure and to trace some of the systematic connections among and within them. These three domains—physical, cultural, and intellectual—are only roughly divided, because they cannot be sharply delineated and usually interact in significant ways.

So far we have examined what we might call "structural" metaphors, cases where one concept is metaphorically structured in terms of another (e.g., ARGUMENT is structured in terms of WAR). Structural metaphors often involve using a concept from one domain (WAR as a physical or cultural phenomenon) to structure a concept from another domain (ARGUMENT as primarily an intellectual concept, but with cultural content). But before we can look more closely at the various domains of conceptual structure, it is important to see that there are what might be called "physical" and "orientational" metaphors, in addition to structural metaphors of the conventional type. Briefly, "physical" metaphors involve the projection of entity or substance status upon something that does not have that status inherently. Such conventional metaphors allow us to view events, activities, emotions, ideas, etc., as entities for various purposes (e.g., in order to refer to them, categorize them, group them, or quantify them). For example, we find physical metaphors such as:

My fear of insects is driving my wife crazy. (referring)

You've got *too much hostility* in you. (quantifying)

The *brutality of war* dehumanizes us all. (identifying aspects)

The *pressures of his responsibilities* caused his breakdown. (identifying causes)

Here's what to do to ensure *fame and fortune*. (setting goals and motivating actions)

Physical metaphors such as these are hardly ever noticed, because they are so basic to our everyday conceptualizing and functioning. But they are, nevertheless, conventional metaphors by means of which we understand either nonphysical or not clearly bounded things as entities. In most cases such metaphors involve the use of a concept from the physical domain to structure a concept from the cultural or intellectual domains.

A third kind of conventional metaphor is the "orientational" metaphor, which does not structure one concept in terms of another, but instead organizes a whole system of concepts with respect to one another. We call them "orientational" metaphors because most of them have to do with spatial orientation: UP-DOWN, FRONT-

BACK, IN-OUT, ON-OFF, DEEP-SHALLOW, CENTRAL-PERIPHERAL. These spatial orientations arise from the facts that we have bodies of the sort we have and that they function as they do in our physical environment. Orientational metaphors give a concept a spatial orientation, for example, HAPPY IS UP. The fact that the concept HAPPY is oriented UP leads to English expressions like "I'm feeling up today."

In order to examine the way in which metaphors provide structure across the different domains of concepts (physical, cultural, intellectual) we shall focus briefly on orientational metaphors, as representative examples. Such metaphorical orientations are not arbitrary. They have a basis in our physical and cultural experience. Though the polar oppositions UP-DOWN, IN-OUT, etc. are physical in nature, the orientational metaphors can vary from culture to culture. For example, some cultures orient the future in front of us; others orient it in back. We will be looking at UP-DOWN spatialization metaphors, which have been studied intensively by William Nagy,⁴ as an illustration. In each case, we will give a brief hint of how each metaphorical concept might have arisen from our physical and cultural experience. These accounts are meant to be suggestive and plausible, rather than definitive.

(1) HAPPY IS UP; SAD IS DOWN

I'm feeling up. That boosted my spirits. My spirits rose. You're in high spirits. Thinking about her always gives me a lift. I'm feeling down. I'm depressed. He's really low these days. I fell into a depression. My spirits sank.

Physical basis: Drooping posture typically goes along with sadness and depression, erect posture with a positive emotional state.

(2) CONSCIOUS IS UP; UNCONSCIOUS IS DOWN

Get up. Wake up. I'm up already. He rises early in the morning. He fell asleep. He dropped off to sleep. He's under hypnosis. He sank down into a coma.

Physical basis: Humans and most animals sleep lying down and stand erect when they wake up.

(3) HEALTH AND LIFE ARE UP; SICKNESS AND DEATH ARE DOWN

He's at the peak of health. Lazarus rose from the dead. He's in top shape. As to his health, he's way up there. He fell ill. He's sinking fast. He came down with the flu. His health is declining. He dropped dead.

Physical basis: Serious illness forces us physically to lie down. When you're dead you are physically down.

⁴ *Figurative Patterns and Redundancy in the Lexicon*, unpublished dissertation, University of California at San Diego, 1974.

(4) HAVING CONTROL OR FORCE IS UP; BEING SUBJECT TO CONTROL OR FORCE IS DOWN

I have control over her. I am on top of the situation. He's in a superior position. He's at the height of his power. He's in the high command. His power rose. He's in a dominating position. He ranks above me in strength. He is under my control. He fell from power. His power is on the decline. He's in an inferior position.

Physical basis: Physical size typically correlates with physical strength, and the victor in a fight is typically on top.

(5) MORE IS UP; LESS IS DOWN

The number of books printed each year keeps going up. You made a high number of mistakes. My income rose last year. There is an overabundance of food in this country. My knowledge keeps increasing. The amount of artistic activity in this state has gone down in the past year. His number of errors is incredibly low. His income fell last year. He is underage. If you're too hot, turn the heat down.

Physical basis: If you add more of a substance or of physical objects to a container or pile, the level goes up.

(6) FORESEEABLE FUTURE EVENTS ARE UP (AND AHEAD)

The up-and-coming events are listed in the paper. What's coming up this week? I'm afraid of what's up ahead of us. What's up?

Physical basis: Normally our eyes are in the direction in which we typically move (ahead, forward). As an object approaches a person (or the person approaches the object), the object appears larger. Since the ground is perceived as being fixed, the top of the object appears to be moving *upward* in the person's field of vision.

(7) HIGH STATUS IS UP; LOW STATUS IS DOWN

He has a high position. She'll rise to the top. He's at the peak of his career. He's climbing the ladder. He has little upward mobility. He has a low position. She fell in status.

Social and physical basis: Status is correlated with power (social) and power is UP (physical).

(8) GOOD IS UP; BAD IS DOWN

Things are looking up. We hit a peak last year, but it's been going downhill ever since. Things are at an all-time low. The quality of life is high these days.

Physical basis for personal well-being: HAPPINESS, HEALTH, LIFE, and CONTROL—the things that principally characterize what is GOOD for a person—are all UP.

(9) VIRTUE IS UP; DEPRAVITY IS DOWN

He is high-minded. She has high standards. She is upright. She is an up-standing citizen. That was a low trick. Don't be underhanded. I wouldn't

stoop to that. That would be beneath me. He fell into the abyss of depravity. That was a low-down thing to do.

Physical and social basis: GOOD IS UP for a person (physical basis), together with the SOCIETY IS A PERSON metaphor (in the version where you are *not* identifying with your society). To be virtuous is to act in accordance with the standards set by the society-person to maintain its well-being. VIRTUE IS UP because virtuous actions correlate with social well-being from the society-person's point of view. Since socially based metaphors are part of the culture, it's the society-person's point of view that counts.

(10) RATIONAL IS UP; EMOTIONAL IS DOWN

The discussion fell to the emotional level, but I raised it back up to the rational plane. We put our feelings aside and had a high-level intellectual discussion of the matter. He couldn't rise above his emotions.

Physical and cultural basis: In this culture people view themselves as being in control over animals, plants, and their physical environment, and it is their unique ability to reason that places human beings above other animals and gives them this control. CONTROL IS UP, which has a physical basis, thus provides a basis for MAN IS UP, and therefore for RATIONAL IS UP.

On the basis of these examples, we suggest the following conclusions about the experiential grounding, the coherence, and the systematicity of metaphorical concepts:

(i) Most of our fundamental concepts are organized in terms of one or more spatialization metaphors.

(ii) There is an internal systematicity to each spatialization metaphor. For example, HAPPY IS UP defines a coherent system, rather than a number of isolated and random cases. (An example of an incoherent system would be one where, say, "I'm feeling up" meant "I'm feeling happy," but "My spirits rose" meant "I became sadder").

(iii) There is an over-all external systematicity among the various spatialization metaphors, which defines coherence among them. Thus, GOOD IS UP gives an UP orientation to general well-being, which is coherent with special cases like HAPPY IS UP, HEALTHY IS UP, ALIVE IS UP, CONTROL IS UP. STATUS IS UP is coherent with CONTROL IS UP.

(iv) Spatialization metaphors are rooted in physical and cultural experience. They are not randomly assigned.

(v) There are many possible physical and social bases for metaphors. Coherence within the over-all system seems to be part of the reason why one is chosen and not another. For example, happiness also tends to correlate physically with a smile and a general feeling of expansiveness. This could in principle form the basis for a metaphor HAPPY IS WIDE; SAD IS NARROW. And in fact there are minor

metaphorical expressions like "I'm feeling expansive" which pick out a different aspect of happiness than does "I'm feeling up." But the major metaphor *in our culture* is HAPPY IS UP; there is a reason why we speak of the height of ecstasy rather than the breadth of ecstasy. HAPPY IS UP is maximally coherent with GOOD IS UP, HEALTHY IS UP, etc.

(vi) In some cases spatialization is so essential a part of a concept that it is difficult for us to imagine any alternative metaphor that might structure the concept. In our society "high status" is such a concept. Other cases, like happiness, are less clear. Is the concept of happiness independent of the HAPPY IS UP metaphor, or is the up-down spatialization of happiness a part of the concept? We believe that it is a part of the concept within a given conceptual system. The HAPPY IS UP metaphor places happiness within a coherent metaphorical system, and part of its meaning comes from its role in that system.

(vii) So-called "purely intellectual" concepts, e.g., the concepts in a scientific theory, are often—and maybe even always—based on metaphors that have a physical or cultural basis. The 'high' in 'high-energy particles' is based on MORE IS UP. The 'high' in 'high-level functions', as in physiological psychology, is based on RATIONAL IS UP. The 'low' in 'low-level phonology' (which refers to detailed phonetic aspects of the sound systems of languages) is based on MUNDANE REALITY IS DOWN (as in 'down to earth'). The intuitive appeal of a scientific theory has to do with how well its metaphors fit one's experience.

(viii) Our physical and cultural experience provides many possible bases for spatialization metaphors. Which ones are chosen, and which ones are major, may vary from culture to culture.

(ix) It is hard to distinguish the physical from the cultural basis of a metaphor, since the choice of one from among many possible physical bases has to do with cultural coherence. It is to this connection between metaphor and cultural coherence that we now turn.

V. METAPHOR AND CULTURAL COHERENCE

The most fundamental values in a culture will be coherent with the metaphorical structure of the most fundamental concepts in the culture. As an example, let us consider some cultural values in our society which are coherent with our UP-DOWN spatialization metaphors and whose opposites would not be.

1. MORE IS BETTER is coherent with MORE IS UP and GOOD IS UP.
- LESS IS BETTER is not coherent with them.

2. BIGGER IS BETTER is coherent with MORE IS UP and GOOD IS UP; SMALLER IS BETTER is not coherent with them.
3. THE FUTURE WILL BE BETTER is coherent with THE FUTURE IS UP and GOOD IS UP; THE FUTURE WILL BE WORSE is not.
4. THERE WILL BE MORE IN THE FUTURE is coherent with MORE IS UP and THE FUTURE IS UP.
5. YOUR STATUS SHOULD BE HIGHER IN THE FUTURE is coherent with HIGH STATUS IS UP and THE FUTURE IS UP.

These are values deeply embedded in our culture. THE FUTURE WILL BE BETTER is a statement of the concept of progress. THERE WILL BE MORE IN THE FUTURE has as special cases the accumulation of goods and wage inflation. YOUR STATUS SHOULD BE HIGHER IN THE FUTURE is a statement of careerism. These are coherent with our present spatialization metaphors; their opposites would not be. So it seems that our values are not independent, but must form a coherent system with the metaphorical concepts we live by. We are not claiming that all cultural values coherent with a metaphorical system will exist, but only that those which do exist and are deeply entrenched will be consistent with the metaphorical system.

The values listed above hold in our culture in general—all things being equal. But because things are usually not equal, there are often conflicts among these values. To resolve such conflicts, one has to give different priorities to these values. There are certain constants. For instance, MORE IS UP seems always to have the highest priority since it has the clearest physical basis. The priority of MORE IS UP over GOOD IS UP can be seen in examples like "Inflation is rising" and "The crime rate is going up." Assuming that inflation and the crime rate are BAD, these sentences mean what they do because MORE IS UP always has top priority.

In general, which values are given priority is partly a matter of the subculture you live in and partly a matter of personal values. The various subcultures of a mainstream culture share basic values, but give them different priorities. For example, the value BIGGER IS BETTER may be in conflict with THERE WILL BE MORE IN THE FUTURE when it comes to the question of whether to buy a big car now with large time payments that will eat up future salary or whether to buy a smaller cheaper car. There are American subcultures where you buy the big car and don't worry about the future, and there are others where the future comes first and you buy the small car. There was a time (before inflation and the energy crisis) when owning a small car had a high status within the subculture where VIRTUE IS UP and SAVING RESOURCES IS VIRTUOUS took priority over BIGGER

IS BETTER. Nowadays the number of small car owners has gone up drastically because there is a large subculture where SAVING MORE MONEY IS BETTER has priority over BIGGER IS BETTER.

In addition to subcultures, there are groups whose defining characteristic is that they have certain important values that conflict with those of the mainstream culture. But in less obvious ways they preserve other mainstream values. Take monastic orders like the Trappists. There LESS IS BETTER and SMALLER IS BETTER with respect to material possessions, which are viewed as hindering what is important, namely, spiritual growth. The Trappists share the mainstream value VIRTUE IS UP, though they give it the highest priority and a very different definition. MORE is still BETTER, though it applies to VIRTUE; and STATUS is still UP, though it is not of this world but of a HIGHER one, the Kingdom of God. Moreover, THE FUTURE WILL BE BETTER in terms of spiritual growth (UP) and ultimately salvation (REALLY UP). This is typical of groups that are out of mainstream culture. VIRTUE, GOODNESS, and STATUS may be radically redefined, but they are still UP. It is still BETTER to have MORE of what is important, the FUTURE WILL BE BETTER with respect to what is important, and so on. Relative to what is important for such a monastic group, the value system is both internally coherent and, with respect to what is important for the group, coherent with the major orientational metaphors of the mainstream culture.

Individuals, like groups, will vary in their priorities and in the way they define what is GOOD or VIRTUOUS to them. In this sense, they are like subgroups of one. Relative to what is important for them, their individual value systems are coherent with the major orientational metaphors of their mainstream culture.

Not all cultures give the priorities we do to UP-DOWN orientation. There are cultures where BALANCE or CENTRALITY plays a much more important role than it does in our culture. Or consider the nonspatial orientation ACTIVE-PASSIVE. For us ACTIVE IS UP and PASSIVE IS DOWN in most matters. But there are cultures where passivity is valued more than activity. In general the major orientations UP-DOWN, IN-OUT, CENTRAL-PERIPHERAL, ACTIVE-PASSIVE, etc., seem to cut across all cultures, but which concepts will be oriented which way, and which orientations will be most important, will vary from culture to culture.

VI. AN APPARENT METAPHORICAL CONTRADICTION

Charles Fillmore has observed (in conversation) that English appears to have two contradictory organizations of time. In the first the future is in front and the past behind.

In the weeks ahead of us. . . (future)

That's all behind us now. . . (past)

In the second, the future is behind and the past is in front.

In the following weeks. . . (future)

In the preceding weeks. . . (past)

This appears to be a contradiction in the metaphorical organization of time. Moreover, the apparently contradictory metaphors can mix with no ill effect, as in "We're looking *ahead* to the *following* weeks." Here it appears that *ahead* organizes the future in front, while *following* organizes it behind.

To see that there is, in fact, a coherence here, we first have to consider some facts about back and front organization. Some things have inherent fronts and backs, for example, people and cars, but not trees. A rock may receive a front-back organization under certain circumstances. Suppose you are looking at a medium-sized rock and there is a ball between you and the rock, say, a foot from the rock. Then it is appropriate for you to say "The ball is in front of the rock." The rock has received a front-back orientation, as if it had a front that faced you. This is not universal. There are languages, for instance Hausa, where the rock would receive the reverse orientation and you would say that the ball was behind the rock, if it was between you and the rock.

Moving objects generally receive a front-back orientation so that the front is in the direction of motion (or in the canonical direction of motion, so that a car backing up retains its front). A spherical satellite, for example, that has no front while standing still, gets a front while in orbit by virtue of the direction in which it is moving.

Now time in English is structured in terms of the TIME IS A MOVING OBJECT metaphor, with the future moving toward us.

The time will come when. . .

The time has long since gone when. . .

The time for action has arrived.

The proverb "Time flies" is an instance of the TIME IS A MOVING OBJECT metaphor. Since we are facing toward the future, we get:

In the weeks ahead of us. . .

I look forward to doing that.

Before us is a great opportunity.

By virtue of the TIME IS A MOVING OBJECT metaphor, time receives a front-back orientation facing in the direction of motion, just as any moving object would. Thus the future is facing toward us as it

moves toward us, and we find expressions like:

I can't face the future.

The face of things to come. . .

Let's meet the future head-on.

Now, although expressions like 'ahead of us', 'I look forward', and 'before us' orient times with respect to people, expressions like 'precede' and 'follow' orient times with respect to times. Thus we get:

Next week and the week following it. . .

but not:

The week following me. . .

Since future times are facing toward us, the times following them are further in the future, and all future times follow the present. That is why the *weeks to follow* are the same as *the weeks ahead of us*.

The point of this example is not merely to show that there is no contradiction, but also to show all the subtle details that are involved in the coherence: the TIME IS A MOVING OBJECT metaphor, the front-back orientation given to time by virtue of its being a moving object, and the consistent application of words like 'follow', 'precede', and 'face' when applied to time on the basis of the metaphor. All of this coherent detailed metaphorical structure is part of our everyday literal language about time, so familiar that we would normally not notice it.

VII. SOME FURTHER EXAMPLES

We have been claiming that metaphors partially structure our everyday concepts, and that this structure is reflected in our literal language. Before we can get an over-all picture of the philosophical implications of these claims, we need a few more examples. In each of the following cases we give a metaphor and a list of ordinary expressions that are special cases of the metaphor. The English expressions are of two sorts—simple literal expressions and idioms that fit the metaphor and are part of the normal everyday way of talking about the subject.

THEORIES (AND ARGUMENTS) ARE BUILDINGS

Is that the *foundation* for your theory? The theory needs more *support*. The argument is *shaky*. We need some more facts or the arguments will *fall apart*. We need to *construct* a *strong* argument for that. I haven't figured out yet what the *form* of the argument will be. We need some more facts to *shore up* the theory. We need to *buttress* the theory with *solid* arguments. The theory will *stand* or *fall* on the *strength* of that argument. The argument *collapsed*. They *exploded* his latest theory. We will

show that theory is *without foundation*. So far we have only put together the *framework* of the theory.

IDEAS ARE FOOD

What he said *left a bad taste in my mouth*. All this paper has in it are *raw facts*, *half-baked ideas*, and *warmed-over theories*. There were too many facts in the paper for me to *digest* them all. I just can't *swallow* that claim. That argument *smells fishy*. Let me *stew over* that for a while. Now there's a theory you can really *sink your teeth into*. We need to let that idea *percolate* for a while. That's *food for thought*. He's a *voracious* reader. We don't need to *spoon-feed* our students. He *devoured* the book. Let's let that idea *simmer on the back burner* for a while. This is the *meaty* part of the paper.

LOVE IS A JOURNEY

Look *how far we've come*. We're *at a crossroads*. We can't *turn back* now. I don't think this relationship is *going anywhere*. This relationship is a *dead-end street*. Our marriage is *on the rocks*. We've gotten *off the track*. *Where are we?* We're *stuck*. It's been a *long, bumpy road*.

SEEING IS UNDERSTANDING; IDEAS ARE LIGHT SOURCES; DISCOURSE IS A LIGHT MEDIUM

I *see* what you're saying. It *looks* different from my *point of view*. What is your *outlook* on that? I *view* it differently. Now I've got the *whole picture*. Let me *point something out* to you. That's an *insightful* idea. That was a *brilliant* remark. It really *shed light* on the subject. It was an *illuminating* remark. The argument is *clear*. It was a *murky* discussion. Could you *elucidate* your remarks? It's a *transparent* argument. The discussion was *opaque*.

LIFE IS A GAME OF CHANCE

I'll *take my chances*. *The odds are against us*. I've got an *ace up my sleeve*. He's *holding all the aces*. It's a *toss-up*. If you *play your cards right*, you can do it. He *won big*. He's a *real loser*. Where is he when *the chips are down?* That's my *ace in the hole*.

In the last example we have a collection of what are called "speech formulas," or "fixed-form expressions," or "phrasal lexical items." These function in many ways like single words, and the language has thousands of them. In the example given, a set of such phrasal lexical items are coherently structured by a single metaphor. Although each of them is an instance of the LIFE IS A GAME OF CHANCE metaphor, they are typically used to speak of life, not of gambling situations. They are normal ways of talking about life situations, just as using the word 'construct' is a normal way to talk about theories. It is in this sense that we include them as what we have called "literal" or "conventional" metaphors. If you say

"the odds are against us," or "we'll have to take our chances," you will not be viewed as speaking metaphorically, but rather as using the normal everyday language appropriate to the situation.

VIII. THE PARTIAL NATURE OF METAPHORICAL STRUCTURING

So far we have described the systematic character of metaphorically defined concepts. Such concepts are understood in terms of a number of different metaphors (e.g., TIME IS MONEY, TIME IS A MOVING OBJECT, etc.). The metaphorical structuring of concepts is necessarily partial, and is reflected in the lexicon of the language—including the phrasal lexicon, which contains fixed-form expressions such as 'be without foundation'. Because concepts are metaphorically structured in a systematic way, e.g., THEORIES ARE BUILDINGS, it is possible for us to use expressions (*construct*, *foundation*) from one domain (BUILDINGS) to talk about corresponding concepts in the metaphorically defined domain (THEORIES). What *foundation*, for example, means in the metaphorically defined domain (THEORY) will depend on the details of how the metaphorical concept THEORIES ARE BUILDINGS are used to structure the concept of a THEORY.

The parts of the concept of a building which are used to structure the concept of a theory are the foundation and outer shell. The roof, internal rooms, staircases, and hallways are parts of a building not used as part of the concept of a theory. Thus the metaphorical concept THEORIES ARE BUILDINGS has a "used" part (foundation and outer shell) and an "unused" part (rooms, staircases, etc.). Expressions such as *construct* and *foundation* are instances of the used part of such a metaphorical concept and are part of our ordinary literal language about theories.

But what of the linguistic expressions that reflect the "unused" part of a metaphor like THEORIES ARE BUILDINGS? Here are four examples:

His theory has thousands of little rooms and long, winding corridors.

His theories are always baroque.

He prefers massive Gothic theories covered with gargoyles.

Complex theories usually have problems with the plumbing. These sentences fall outside the domain of normal literal language and are part of what is usually called "figurative" or "imaginative" language. Thus literal expressions ("He has constructed a theory") and imaginative expressions ("His theory is covered with gargoyles") can be instances of the same general metaphor (THEORIES ARE BUILDINGS).

Here we can distinguish three different subspecies of imaginative (or nonliteral) metaphor:

(1) Extensions of the used part of the metaphor, e.g., "These facts are the bricks and mortar of my theory." Here the outer shell of the building is referred to, but the metaphor stops short of mentioning the materials used.

(2) Instances of the unused part of the literal metaphor, e.g., "His theory has thousands of little rooms and long, winding corridors."

(3) Instances of novel metaphor, that is, a metaphor not used to structure part of our normal conceptual system, but a new way of thinking about something, e.g., "Classical theories are patriarchs who father many children, most of whom fight incessantly." Each of these subspecies lies outside of the *used* part of a metaphorical concept that structures our normal conceptual system.

We note in passing that all the linguistic expressions that we have given to characterize general, metaphorical concepts are figurative. Examples are TIME IS MONEY, TIME IS A MOVING OBJECT, CONTROL IS UP, IDEAS ARE FOOD, THEORIES ARE BUILDINGS, etc. None of these is literal. This is a consequence of the fact that they are only *partly* used to structure our normal concepts. Since they necessarily contain parts that are not used in our normal concepts, they go beyond the realm of the literal.

Each of the metaphorical expressions we have talked about so far (e.g., the *time will come*, *construct* a theory, *attack* a position) is used within a whole system of metaphorical concepts—concepts that we live and think in terms of. These expressions, like all other words and phrasal lexical items in the language, are fixed by convention. In addition to these cases, which are part of whole metaphorical systems, there are idiosyncratic metaphorical expressions that stand alone and are not systematically used in our language or thought. These are well-known expressions like the *foot* of the mountain, a *head* of cabbage, the *leg* of a table, etc. These expressions are isolated instances of metaphorical concepts, where there is only one instance of a used part (or maybe two or three). Thus the *foot* of the mountain is the only used part of the metaphorical concept A MOUNTAIN IS A PERSON. In normal discourse we do not speak of the *head*, *shoulders*, or *trunk* of a mountain, though in special contexts it is possible to construct novel metaphors about mountains based on these unused parts. In fact, there is an aspect of the metaphorical concept A MOUNTAIN IS A PERSON in which mountain climbers will speak of the *shoulder* of a mountain (namely, a ridge near the top) and of *conquering*, *fighting*, and even *being*

killed by a mountain. And there are cartoon conventions where mountains become animate and their peaks become heads. The point here is that there are metaphorical concepts like A MOUNTAIN IS A PERSON which are marginal in our culture and our language, whose used part may consist of only one conventionally fixed expression of the language, and which do not systematically interact with other metaphorical concepts, because so little of them is used. This makes them relatively uninteresting for our purposes, but not completely uninteresting, since they can be extended to their unused part in framing novel metaphors, making jokes, etc. And our ability to extend them to unused parts indicates that, however marginal they are, they do exist.

Examples like the *foot* of the mountain are idiosyncratic, unsystematic, and isolated. They do not interact with other metaphors, play no particularly interesting role in our conceptual system, and hence are not metaphors that we live by. The only signs of life that they have is that they can be extended in subcultures, and that their unused portions can be the basis for (relatively uninteresting) novel metaphors. If any metaphorical expressions deserve to be called "dead," it is these, though they do have a bare spark of life, in that they are understood partly in terms of marginal metaphorical concepts like A MOUNTAIN IS A PERSON.

It is important to distinguish these isolated and unsystematic cases from the systematic metaphorical expressions we have been discussing. Expressions like 'wasting time', 'attacking positions', 'going our separate ways', etc., are reflections of systematic metaphorical concepts that structure our actions and thoughts. They are "alive" in the most fundamental sense—they are metaphors we live by. The fact that they are conventionally fixed within the lexicon of English makes them no less alive.

IX. INADEQUACIES OF A THEORY OF ABSTRACTION

On the basis of our previous analysis of the nature of literal metaphor we may now begin to draw out what we consider to be the more important implications for recent linguistic and philosophical treatments of language. We shall begin with the theory of abstraction, one strategy which linguists have occasionally tried for dealing with isolated cases of literal metaphor.⁵ For example, consider 'con-

⁵ A philosophical example of the abstractionist position is contained in L. Jonathan Cohen and Avishai Margalit, "The Role of Inductive Reasoning in the Interpretation of Metaphor," in D. Davidson and G. Harman, eds., *Semantics of Natural Language* (Boston: Reidel, 1972), pp. 722–740. "The metaphorical meanings of a word or phrase in a natural language are all contained, as it

struct' in "We constructed a theory" and "We constructed a building." According to the abstraction proposal, 'construct' has a very general, abstract meaning which is neutral between buildings and theories and can apply to both. Another example would be the 'in' of 'in the kitchen', 'in the ruling class', and 'in love'. The abstraction solution is that 'in' has an abstract meaning which is neutral among space, social groups, and love, and which can apply to all. This proposal has typically been suggested only for isolated lexical items rather than whole domains of literal metaphor, so it is not clear that there is any proposal for abstraction that is relevant. Still, the idea keeps popping up that it ought to be a viable program; so we shall indicate several shortcomings of this view relative to our account of literal metaphor.

(1) Under the abstraction view, there would be no conventional metaphors and, therefore, no partial metaphorical structuring such as we have proposed. But then how can one explain the apparent systematic grouping of expressions under single metaphors and the fact that different metaphors based on a single concept may have different partial structurings? Consider the metaphors LOVE IS WAR, RATIONAL DISCOURSE IS WAR, STOPPING INFLATION IS WAR, and CANCER IS WAR. ATTACK is in CANCER, INFLATION, and DISCOURSE. STRATEGY is in LOVE, DISCOURSE, and INFLATION. CONQUERING is in LOVE, INFLATION, and CANCER. VICTORIES and SETBACKS are in all of them. There is a FIRST LINE OF DEFENSE in INFLATION and CANCER. On our hypothesis, WAR is the basis for all four metaphors, each of which has a different partial structuring. On the abstraction hypothesis, there is no unity at all, but only a hodgepodge of different abstract concepts of different sorts.

(2) Since the abstraction proposal has no partial metaphorical structuring, it cannot account for metaphorical extensions into the unused part of the metaphor, as in "Your theory is constructed out of cheap stucco" and many others that fall within the unused portion of the THEORIES ARE BUILDINGS metaphor.

(3) The abstraction proposal does not seem to make any sense at all for UP-DOWN spatialization metaphors, such as HAPPY IS UP, CONTROL IS UP, MORE IS UP, VIRTUE IS UP, THE FUTURE IS UP, REASON IS UP, NORTH IS UP, etc. It seems impossible to imagine a single general

were, within its literal meaning or meanings. They are reached by removing any restrictions in relation to certain variables from the appropriate section or sections of its semantical hypothesis" (735). The result of merely removing restrictions would always result in a very general meaning in common between the metaphorical and literal meanings.

concept with any content at all that would be an abstraction of HEIGHT, HAPPINESS, CONTROL, MORE, VIRTUE, THE FUTURE, REASON, and NORTH and which would precisely fit them all. Moreover, it would seem that UP and DOWN could not be at the same level of abstraction, since UP applies to the FUTURE, while DOWN does not apply to the PAST. We account for this by partial metaphorical structuring, but under the abstraction proposal UP would have to be more abstract in some sense than DOWN, and that does not seem to make sense.

(4) The abstraction theory would not distinguish between metaphors of the form "*A is B*" and those of the form "*B is A*," since it would claim that there are neutral terms covering both domains. For example, English has the LOVE IS A JOURNEY metaphor, but no JOURNEYS ARE LOVE metaphor. The abstraction view would deny that love is understood in terms of journeys, and would be left with the counterintuitive claim that love and journeys are understood in terms of some abstract concept neutral between them.

(5) Different conventional metaphors can structure different aspects of a single concept. For example, LOVE IS A JOURNEY; LOVE IS WAR; LOVE IS AN ELECTROMAGNETIC PHENOMENON; LOVE IS MADNESS; LOVE IS A GAME. Each of these provides one perspective on the concept of love and structures one of many aspects of the concept. The abstraction hypothesis would seek a single general concept of love which is abstract enough to fit all of these. This would miss the point that these metaphors are not jointly characterizing a core concept of love, but are separately characterizing different aspects of the concept of love.

(6) Finally, the abstraction hypothesis assumes, in the case of LOVE IS A JOURNEY, for example, that there is a set of abstract concepts, neutral with respect to love and journeys, which can "fit" or "apply to" both of them. But in order for such abstract concepts to "fit" or "apply to" love, the concept of love must be independently structured, so that there can be such a "fit." As we will show, love is, on its own terms, not a concept that has a clearly delineated structure; it gets such structure only via conventional metaphors. But the abstraction view, which has no conventional metaphors to do the structuring, must assume that a structure as clearly delineated as the relevant aspects of journeys exists independently for the concept of love. It's hard to imagine how.

X. HOW IS OUR CONCEPTUAL SYSTEM GROUNDED?

We claim that most of our normal conceptual system is metaphorically structured; that is, most concepts are partially understood in

terms of other concepts. This raises an important question about the grounding of our conceptual system. Are there any concepts at all that are understood directly without metaphor? If not, how can we understand anything at all?

The prime candidates for concepts that are understood directly are the simple spatial concepts, such as UP. Our spatial concept UP arises out of our spatial experience. We have bodies and stand erect. Virtually every motor movement that we make involves a motor program that either changes our UP-DOWN orientation, maintains it, presupposes it, or takes it into account in some way. Our constant physical activity in the world, even when we sleep, makes UP-DOWN orientation not merely relevant to our physical activity, but centrally relevant. The centrality of UP-DOWN orientation in our motor programs and everyday functioning might make one think that there could be no alternative to such an orientational concept. Objectively speaking, however, there are many possible frameworks for spatial orientation, including Cartesian coordinates, which don't in themselves have UP-DOWN orientation. Human spatial concepts, however, include UP-DOWN, FRONT-BACK, IN-OUT, NEAR-FAR, etc. It is these that are relevant to our continual everyday bodily functioning, which gives them a relative priority over other possible structurings of space *for us*. In other words, the structure of our spatial concepts emerges from our constant spatial experience, that is, our interaction with our physical environment. Concepts that emerge in this way are concepts that we live by in the most fundamental way.

Thus, UP is *not* understood purely in its own terms, but emerges from the collection of constantly performed motor functions that have to do with our erect position relative to the gravitational field we live in. Imagine a spherical being living outside of any gravitational field, with no knowledge or imagination of any other kind of experience. What could UP possibly mean to such a being?

Some of the central concepts in terms of which our bodies function—UP-DOWN, IN-OUT, FRONT-BACK, LIGHT-DARK, WARM-COLD, MALE-FEMALE, etc.—are more sharply delineated than others. Our emotional experience is as basic as our spatial and perceptual experience, but our emotional experiences are much less sharply delineated in terms of what we do with our bodies. Although a sharply delineated conceptual structure for space emerges from our perceptual-motor functioning, no sharply defined conceptual structure for the emotions emerges from our emotional functioning alone. Since there are *systematic correlates* between our emotions (like happiness) and our sensory-motor experiences (like erect posture), these form the

basis of orientational metaphorical concepts (such as HAPPY IS UP). Such metaphors allow us to conceptualize our emotions in more sharply defined terms and also to relate them to other concepts having to do with general well-being (e.g., HEALTH, LIFE, CONTROL, etc.). In this sense, we can speak of *emergent metaphors* as well as emergent concepts.

The concepts of OBJECT, SUBSTANCE, and CONTAINER also emerge directly. We experience ourselves as entities, separate from the rest of the world—CONTAINERS with an inside and an outside. We also experience things external to us as entities—often also CONTAINERS with insides and outsides. We experience ourselves as being made up of SUBSTANCES, e.g., flesh and bone, and external objects as being made up of various *kinds* of SUBSTANCES—wood, stone, metal, etc. We experience many things, through sight and touch, as having distinct boundaries. And when things have no distinct boundaries, we often project boundaries upon them—conceptualizing them as entities and often as containers (for example, forests, clearings, clouds, etc.).

Like orientational metaphors, basic physical metaphors are grounded by virtue of *systematic correlates within our experience*. For example, the metaphor THE VISUAL FIELD IS A CONTAINER is grounded in the correlation of what we see with a bounded physical space. The TIME IS A MOVING OBJECT metaphor is based on the correlation between an object moving toward us and the time it takes to get to us. The same correlation is a basis for the TIME IS A CONTAINER metaphor (as in “He did it *in* ten minutes”), with the *bounded* space traversed by the object correlated with the time the object takes to traverse it. EVENTS and ACTIONS are correlated with bounded time spans, which makes them CONTAINER-OBJECTS.

Perhaps the most important thing to stress about grounding is the distinction between an experience and the way we conceptualize it. We are *not* claiming that physical experience is in any way more basic than other kinds of experience, whether emotional, mental, cultural, or whatever. All these experiences may be just as basic as physical experiences. Rather, what we *are* claiming about grounding is that we typically *conceptualize* the nonphysical in terms of the physical—or the less clearly delineated in terms of the more clearly delineated. To see this more clearly, consider the following examples:

- (1) Harry is *in* the kitchen.
- (2) Harry is *in* the Elks Club.
- (3) Harry is *in* love.

The sentences refer to three different domains of experience: spatial, social, and emotional. None of these has experiential priority over the others; they are all equally basic kinds of experience.

But with respect to conceptual structuring there is a difference. The concept IN expressed in (1) emerges *directly* from spatial experience in a clearly delineated fashion. It is not an instance of a metaphorical concept. The other two sentences *are* instances of metaphorical concepts. (2) is an instance of the SOCIAL GROUPS ARE CONTAINERS metaphor, in terms of which the concept of a social group is structured. This metaphor allows us to "get a handle on" the concept of a social group by means of a spatialization. Both the word 'in' and the concept IN are the *same* in all three examples; we do not have three different concepts of IN or three homophonous words 'in'. We have one emergent concept IN, one word for it, and two metaphorical concepts which partially define social groups and emotional states. What these cases show is that it is possible to have equally basic kinds of experiences while having conceptualizations of them that are not equally basic.

Thus, (1) happens to be, according to our account, a nonmetaphoric literal sentence, containing a directly spatial nonmetaphoric instance of the spatial concept IN. But for most linguistic purposes this doesn't give it any particularly special status over (2) and (3). However, sentences like (1) do seem to have special status in philosophical papers dealing with literal meaning. Sentences like (1) are much more likely to be used as clear examples of literal meaning than are sentences like (2) and (3), since philosophers seem instinctively to shy away from using sentences containing conventional metaphors as examples of literal meaning. That is the reason for the predominance of examples such as "The cat is on the mat," "Snow is white," "Brutus killed Caesar," etc.

XI. AN EXAMPLE OF AN EMERGENT CATEGORY

Our discussion in the two previous sections of the grounding of our conceptual system and the nature of nonmetaphoric literal meaning may seem to provide a framework for a "building-block" theory, in which all meaningful utterances either are or are constructed from certain unanalyzable semantic units. But we reject the notion of unanalyzable simples which might serve as the atoms for a linguistic or epistemological foundationalism. Instead, we wish to identify emergent categories and concepts that are best understood as experiential gestalts, which, though decomposable into other elements, are yet basic and irreducible in terms of grounding our conceptual system.

To explain this important notion, let us now move beyond our use of spatial examples of concepts that emerge from our successful functioning in our environment (e.g., UP-DOWN, IN-OUT, etc.) to a consideration of the concept of causation. Piaget has hypothesized that infants first learn about causation through the realization of their ability to manipulate directly objects around them—pulling off their blankets, throwing their bottles, dropping toys. There is, in fact, a stage in which infants seem to "practice" these manipulations, e.g., repeatedly dropping their spoons. As the child masters these more primitive manipulations of external objects, it moves on to other tasks which are to become part of its constant everyday functioning in its environment, for example, flipping lightswitches, opening doors, buttoning shirts, adjusting glasses. Though each of these actions is different, the overwhelming proportion of them share common features of what we may call a "prototypical" or "paradigmatic" case of direct causation. Among these shared features are included:

1. The agent has as a goal some change of state in the patient.
2. The change of state is physical.
3. The agent has a "plan" for carrying out this goal.
4. The plan requires the agent's use of a motor program.
5. The agent is in control of that motor program.
6. The agent is primarily responsible for carrying out the plan.
7. The agent is the energy source (i.e., the agent is directing his energies toward the patient) and the patient is the energy goal (i.e., the change in the patient is due to an external source of energy).
8. The agent touches the patient either with his body or with an instrument (i.e., the change in the patient is due to an external source of energy).
9. The agent successfully carries out the plan.
10. The change in the patient is perceptible.
11. The agent monitors the change in the patient through sensory perception.
12. There is a single specific agent and a single specific patient.

This set of properties characterizes "prototypical" direct manipulations, and these are cases of causation par excellence. We are using the word 'prototypical' in the sense used by Eleanor Rosch in her theory of human categorization.⁶ Her experiments indicate that people categorize objects, not in set-theoretical terms, but in terms of prototypes and family resemblances. For example, small

⁶ "Human Categorization," in N. Warren, ed., *Advances in Cross-cultural Psychology* (New York: Academic Press, 1977), vol. 1.

flying singing birds like sparrows, robins, etc., are prototypical birds. Chickens, ostriches, and penguins are birds, but not central members of the category—they are nonprototypical birds. But they are birds, nonetheless, because they bear sufficient family resemblances to the prototype; that is, they share enough of the relevant properties of the prototype to be classified by people as birds.

The twelve properties given above characterize a prototype of causation in the following sense. They recur together over and over in action after action as we go through our daily lives. We experience them as a gestalt, in which the complex of properties occurring together is more basic to our experience than their separate occurrences. Through their constant recurrence in our everyday functioning, the category of causation emerges with this complex of properties characterizing prototypical causations. Other kinds of causation, which are less prototypical, are actions or events that bear sufficient family resemblances to the prototype. These would include action at a distance, nonhuman agency, the use of an intermediate agent, the occurrence of two or more agents, involuntary or uncontrolled use of the motor program, etc. In physical causation the agent and patient are events, a physical law takes the place of plan, goal, and motor activity, and all the peculiarly human aspects are factored out. When there is not sufficient family resemblance to the prototype, we cease to characterize what happens as causation; for example, if there were multiple agents, if what the agents did was remote in space and time from the patient's change, and if there were neither desire nor plan nor control, then we probably wouldn't say that this was an instance of causation, or at least we would have questions about it.

Although the category of causation has fuzzy boundaries, it is clearly delineated in an enormous range of instances. Our successful functioning in the world involves the application of the concept of causation to ever new domains of activity—through intention, planning, drawing inferences, etc. The concept is stable, because we continue to function successfully in terms of it. Given a concept of causation that emerges from our experience, that concept can be applied to metaphorical concepts. In "Harry raised our morale by telling jokes," for example, we have an instance of causation where what Harry did made our morale go UP, as in the HAPPY IS UP metaphor.

Though the concept of causation as we have characterized it is basic to human activity, it is not a "primitive" in the usual building-block sense; that is, it is not unanalyzable and undecomposable.

Since it is defined in terms of a prototype that is characterized by a recurrent complex of properties, our concept of causation is both analyzable into those properties and capable of a wide range of variation. The terms into which the causation prototype is analyzed (e.g., control, motor program, volition, etc.) are probably also characterized by prototype and capable of further analysis. This permits us to have concepts that are at once experientially basic and indefinitely analyzable.

XII. NOVEL METAPHOR

We have already discussed some cases of novel metaphor as instances of the extensions of a conventional metaphor drawn from ordinary language. We gave examples of extensions of both the "used" and "unused" portion of the THEORIES ARE BUILDINGS metaphor and also of a truly novel metaphor not normally used to structure our conceptual system (for example, the CLASSICAL THEORIES ARE PATRIARCHS metaphor). We now want to explore more fully the workings of novel metaphor by focusing on two problems of special philosophical importance. First, what makes one metaphor more appropriate or fitting than another, and second, in what sense, if any, may we speak of the truth of a metaphor?

A. *What Makes a Novel Metaphor Appropriate?*

Consider the new metaphor: LOVE IS A COLLABORATIVE WORK OF ART. This is a metaphor that we personally find particularly forceful, insightful, and appropriate, given our experiences as members of our generation and our culture. The reason is that it makes our experiences coherent—it makes sense of them. But how can a mere metaphor make coherent a large and diverse range of experiences? The answer, we believe, comes out of the fact that metaphors have entailments. A novel metaphor may entail both other novel metaphors and literal statements. For example, the entailments of LOVE IS A COLLABORATIVE WORK OF ART arise from our knowledge and experience of what it means for something to be a collaborative work of art. Here are some of the entailments of this metaphor, based on our own experiences of what a collaborative work of art entails.

LOVE IS WORK.
LOVE IS ACTIVE.
LOVE REQUIRES HELPING.

LOVE IS AN AESTHETIC EXPERIENCE.
LOVE IS VALUABLE IN ITSELF.
LOVE IS AN EXPRESSION OF DEEPEST EMOTION.

LOVE REQUIRES COMPROMISE.	LOVE IS CREATIVE.
LOVE REQUIRES PATIENCE.	LOVE INVOLVES BEAUTY.
LOVE REQUIRES SHARED VALUES AND GOALS.	LOVE REQUIRES HARMONY.
LOVE DEMANDS SACRIFICE.	LOVE CANNOT BE ACHIEVED BY FORMULA.
LOVE INVOLVES FRUSTRATION.	LOVE IS UNIQUE IN EACH INSTANCE.
LOVE REQUIRES DISCIPLINE.	LOVE IS UNPREDICTABLE IN ITS OUTCOME.
LOVE BRINGS JOY AND PAIN.	LOVE IS AN ACT OF COMMUNICATION.

Some of these entailments are literal (e.g., LOVE REQUIRES PATIENCE); others are themselves novel metaphors (e.g., LOVE IS AN AESTHETIC EXPERIENCE). Each of these entailments may itself have further entailments. The result is a large and coherent network of entailments which may, on the whole, either fit or not fit our experiences of love. When such a coherent network of entailments fits our experiences, those experiences form a coherent whole as instances of the metaphor. What we experience with such a metaphor is a kind of reverberation down through the network of entailments which awakens and connects our memories of our past love experiences and serves as a possible guide for future ones.

Let's get more specific about what we mean by "reverberations" in the metaphor LOVE IS A COLLABORATIVE WORK OF ART.

(1) The metaphor highlights certain features while suppressing others. For example, the ACTIVE side of love is brought into the foreground through the notion of WORK both in COLLABORATIVE WORK and in WORK OF ART. This requires the masking of certain aspects of love which are viewed passively. In fact, the emotional aspects of love are almost never viewed as being under active control in our literal language. Even in the LOVE IS A JOURNEY metaphor, the relationship is viewed as a vehicle that is not in the couple's active control, one that can be OFF THE TRACKS, OR ON THE ROCKS, OR NOT GOING ANYWHERE. In the LOVE IS MADNESS metaphor ("I'm crazy about her," "She's driving me wild"), there is the ultimate lack of control. In the LOVE IS HEALTH metaphor, where the relationship is a patient ("It's a healthy relationship," "It's a sick relationship," "Their relationship is reviving"), the passivity of health in this culture is transferred to love. Thus, in focusing on various aspects of activity (e.g., WORK, CREATION, PURSUING GOALS, BUILDING, HELPING, etc.), the metaphor provides an organization of important love experiences that the literal language does not make available.

(2) The metaphor does not merely entail other concepts, like

WORK OR PURSUING SHARED GOALS, but it entails very specific *aspects* of these concepts. It is not just any work, like working on an automobile assembly line, for instance. It is work that requires special balance of power and letting go which is appropriate to artistic creation. It is not just any kind of goal that is pursued, but a joint aesthetic goal. And though the metaphor may suppress the out-of-control aspects of the LOVE IS MADNESS metaphor, it highlights another aspect, namely, the sense of almost demonic possession which lies behind our culture's connection between artistic genius and madness.

(3) Because the metaphor highlights important love experiences and makes them coherent, while it masks other love experiences, the metaphor gives love a new meaning. If those things entailed by the metaphor are for us the most important aspects of our love experiences, then the metaphor can acquire the status of a truth—for many people, love *is* a collaborative work of art. And because it is, the metaphor can have a feedback effect, guiding our future actions in accordance with the metaphor.

(4) Thus, metaphors can be appropriate because they sanction actions, justify inferences, and help us set goals. For example, certain actions, inferences, and goals are dictated by the LOVE IS A COLLABORATIVE WORK OF ART metaphor but not by the LOVE IS MADNESS metaphor. If love is MADNESS, I do not concentrate on what I have to do to maintain it. But if it is WORK, then it requires activity, and if it is a WORK OF ART, it requires a very special *kind* of activity, and if it is COLLABORATIVE, then it is even further restricted and specified.

(5) The meaning a metaphor will have for me will be partly culturally determined and partly tied to my past experiences. The cultural differences can be enormous because each of the concepts in the metaphor under discussion can vary widely from culture to culture—ART, WORK, COLLABORATION, and LOVE. Thus LOVE IS A COLLABORATIVE WORK OF ART would mean very different things to a nineteenth-century European romantic than to a Greenland Eskimo of the same time period. There will also be differences within a culture based on the structure and significance of one's past experiences. LOVE IS A COLLABORATIVE WORK OF ART will mean something very different to two fourteen-year-olds on their first date than to a mature artist-couple. Only when the entailments of a metaphor fit our cultural and personal experience closely enough and when it seems reasonable to ignore what it hides, can we speak of it as being appropriate, and perhaps even true.

B. *Metaphor, Truth, and Action*

In the previous section we established the following:

(1) Metaphors have entailments through which they highlight and make coherent certain aspects of our experience.

(2) A given metaphor may be the only way to highlight and organize coherently exactly those aspects of our experiences.

(3) Through its entailments, a metaphor may be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. Metaphors, therefore, can be like self-fulfilling prophecies.

For example, in the energy crisis President Carter declared "the moral equivalent of war." The WAR metaphor generated a network of entailments. There was an ENEMY, a THREAT TO NATIONAL SECURITY, which required SETTING TARGETS, REORGANIZING PRIORITIES, ESTABLISHING A NEW CHAIN OF COMMAND, PLOTTING NEW STRATEGY, GATHERING INTELLIGENCE, MARSHALLING FORCES, IMPOSING SANCTIONS, CALLING FOR SACRIFICES, and on and on. The WAR metaphor highlighted certain realities and hid others. The metaphor was not merely a way of viewing reality, but constituted a license for policy change and political and economic action. The very acceptance of the metaphor provided grounds for certain inferences: there was an external, foreign, hostile enemy (pictured by cartoonists in Arab headdress); energy needed to be given top priorities; the populace would have to make sacrifices; if we didn't meet the threat, we would not survive. It is important to realize that this was not the only metaphor available. Amory Lovins, for example, suggested the SOFT ENERGY PATH metaphor, which highlighted different facts and had entirely different inferences for action. But Jimmy Carter is more powerful than Amory Lovins. As Charlotte Linde (in conversation) has sadly observed, whether in national politics or in everyday interaction, people in power get to impose their metaphors.

Novel metaphors can have the power of defining reality. They do this through a coherent network of entailments that highlight some features of reality and hide others. The acceptance of the metaphor, which forces us to focus *only* on those aspects of reality which it highlights, leads us to view the entailments of the metaphor as being *true*. Such "truths" are true, of course, only relative to the reality defined by the metaphor. Suppose Carter announces that his administration has won a major energy battle. Is this claim true or false? Even to address oneself to the question requires accepting at least the central parts of the metaphor. If you do not accept the existence of an external enemy, if you think there is no external threat, if you recognize no field of battle, no targets, no clearly

defined competing forces, then the issue of objective truth or falsity cannot arise. But if we see reality as defined by the metaphor, that is, if we do see the energy crisis as a war, then we can answer the question relative to whether the metaphorical entailments fit reality. If Carter, by means of strategically employed political and economic sanctions, forced the OPEC nations to cut the price of oil in half, then we would say he would indeed have won a major battle. If, on the other hand, his strategies had produced only a temporary price freeze, we couldn't be so sure and might be skeptical.

Though questions of truth do arise for novel metaphor, the more important questions are those of action. In most cases, what is at issue is not the truth or falsity of a metaphor, but the inferences that follow from it and the actions that are sanctioned by it. In all aspects of life, not just in politics or in love, we define our reality in terms of metaphor, and then proceed to act on the basis of the metaphor. We draw inferences, set goals, make commitments, and execute plans, all on the basis of how we structure our experience, consciously and unconsciously, by means of metaphor.

XIII. IMPLICATIONS FOR THEORIES OF MEANING AND TRUTH

It is common for contemporary philosophers and linguists to assume (1) that metaphor is a matter of language, not thought, (2) that our everyday conventional language is literal (not metaphorical), and (3) that the central task of a theory of meaning is to give an account of meaning for literal language. The task of a theory of meaning is typically thought to be a matter of supplying truth conditions for literal (that is, nonmetaphorical) utterances. There are, of course, various versions of how this fundamental task is to be carried out, but they all agree that what is needed is a theory of meaning and truth for *literal* sentences. Within this dominant school of thought some insist that the meaning of literal sentences is the only meaning there is. Others argue that the meaning of any nonliteral utterance is merely some function performed on the literal meaning of the sentence used in making the utterance. But, again, both groups focus on giving an account of meaning for literal sentences alone.

What we are suggesting, among other things, is that such a project is not workable when we are dealing with natural languages. We have tried to show that most of our everyday, ordinary conceptual system (and the literal language used to express it) is metaphorically structured. Not only are systems of concepts organized by basic orientational metaphors, but the very concepts themselves are *partially* defined in terms of multiple *physical* and *structural* metaphors. Concepts are not determinable in terms of necessary and suffi-

cient conditions for their application; instead, we grasp them, always in a *partial* fashion, by means of various metaphorical concepts.

What this suggests to us is that no account of meaning and truth can be adequate unless it recognizes and deals with the way in which conventional metaphors structure our conceptual system. Of course, this is no modest claim, for, if we are correct, it calls into question the assumption of many that a complete account of literal meaning can be given without reference to metaphor. It also calls into question, we believe, certain traditional assumptions in the Western philosophical and linguistic traditions about the nature of meaning, truth, logic, rationality, and objectivity.

In a paper of this length, it is impossible even to begin to spell out and support these strong claims. We have recently completed a book-length treatment of the topic (*op. cit.*). Here are the major conclusions that we reach there:

Metaphorical concepts provide ways of understanding one kind of experience in terms of another kind of experience.

Typically this involves understanding less concrete experiences in terms of more concrete and more highly structured experiences.

Many concepts are defined metaphorically, in terms of concrete experiences that we can comprehend, rather than in terms of necessary and sufficient conditions.

This permits cross-cultural differences in conceptual systems: different cultures have different ways of comprehending experience via conceptual metaphor. Such differences will typically be reflected in linguistic differences.

We are thus led to a theory of truth that is dependent on understanding: a sentence is true in a situation when our understanding of the sentence fits our understanding of the situation.

An account of understanding is worked out in terms of a theory of experiential gestalts, that is, structurings of experience along certain natural dimensions: perceptual, functional, etc.

For the present, we hope to have shown only that metaphor is conceptual in nature, that it is pervasive in our everyday conventional language, and that no account of meaning and truth can pretend to be complete, or basically correct, or even on the right track if it cannot account for the kind of phenomena discussed above.

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COMMENTS AND CRITICISM

WANTON EMBEDDING REVISED AND SECURED *

THE principle of wanton embedding was introduced in an earlier paper.** It was offered as an intuitively plausible principle that allowed us to "rule out competitions between certain hypotheses that are of conspicuously unequal simplicity" (144). The competitions that we were most concerned to rule out were those which Andrzej Zabłudowski had constructed as challenges to Nelson Goodman's rule of projectibility.[†] The principle of wanton embedding was seen as but one way of meeting these challenges; it has been maintained through an extended exchange that their thrust may be blunted—and the rule of projectibility kept safe—without recourse to such a principle.^{††} Still, such a principle is desirable, both for its own sake and as additional support for the rule of projectibility.

It was shown by Zabłudowski that on the original formulation of wanton embedding far too many competitions between hypotheses are ruled out.¹ Ralph Kennedy and Charles Chihara purported to establish the same point,² but we observe below that their objections are fairly easy to circumvent. In the present paper we build on the same idea that led to the earlier formulation of wanton embedding and arrive at a new formulation, one which is provably immune to the difficulties that befell its predecessor. Some of the devices used along the way may be of independent interest and might find application elsewhere.

In all that follows it will be convenient to vary the reference of 'J' and 'H' in such a way that questions of wanton embedding are

* I am grateful to Andrzej Zabłudowski for his helpful comments on some intermediate versions of the principle of wanton embedding.

** Joseph Ullian and Nelson Goodman, "Bad Company: A Reply to Mr. Zabłudowski and Others," this JOURNAL, LXXII, 5 (March 13, 1975): 142–145.

[†] "Concerning a Fiction about How Facts Are Forecast," this JOURNAL, LXXI, 4 (Feb. 28, 1974): 97–112. The rule of projectibility referred to is the rule proposed in the last chapter of Goodman's *Fact, Fiction, and Forecast* (Indianapolis: Bobbs-Merrill, 3rd ed. 1973).

^{††} In addition to the papers cited above, see Zabłudowski, "Good or Bad, but Deserved: A Reply to Ullian and Goodman," this JOURNAL, LXXII, 21 (Dec. 4, 1976): 779–784; Ullian and Goodman, "Projectibility Unscathed," *ibid.*, LXXIII, 16 (Sept. 16, 1976): 527–531; Zabłudowski, "Quod Perit, Perit," *ibid.*, LXXIV, 9 (September 1977): 541–552; Goodman and Ullian, "The Short of It," *ibid.*, LXXV, 5 (May 1978): 263–264.

¹ "Quod Perit," pp. 549–551.

² "The Principle of Wanton Embedding," this JOURNAL, LXXIV, 9 (September 1977): 539/40.