

"In the beginning was the Word,
and the Word was with God,
and the Word was God."
(John 1:1-3).

On Truth and Metaphoricity

(in some sense)

Introduction

If we see philosophy of language as a purely normative endeavor to assure an unambiguous, truth-directed language to use in scientific environments, based on a correspondence theoretical account of truth, then this paper is finished right here. We don't have to investigate metaphors. ' "Juliet is the sun" if and only if Juliet is a celestial body that revolves around the earth' is false unless the closest star to the earth is named Juliet. From this point of view it makes sense that for a long time metaphors played a negligible role in philosophy of language. Metaphors are ambiguous, their truth value, if existent, is hidden in and behind structure, context and the speaker's and audience's minds. Bertrand Russell claimed the field of science (including philosophy, many people seem to forget the scientific aspect of philosophy), as the playground for his normative philosophy of language: "*[Many philosophers] are persuaded that common speech is good enough not only for daily life but also for philosophy. I, on the contrary are persuaded that common speech is dull of vagueness and inaccuracy, and that any attempt to be precise and accurate requires modification of common speech both as regards vocabulary and as regards syntax.*"ⁱ

What Russell is asking for is an unambiguous, purely lexical language, unbiased by the connotations we associate with words and phrases, meant to accurately describe things in a scientific environment. Fair enough. It is one question, if this is possible at all; it is another question, if philosophy of language stayed in this small subset of language or if audacious philosophers dared to leave the playground to perambulate the world and bring the joyful message to the people. I believe they did and I also believe that many capable philosophers broke their heads on an endeavor that is built on thin air. Language, once released from the sterility of a scientific and philosophical laboratory doesn't work the way we want it to. Language wants to live and to expand freely in all possible directions. Language likes to play us for fools; it likes to enchant us, to enlighten us. It also likes to tell us something about our past, our culture about our minds and about language itself. But it also allows us to invent it new every day.

One aspect of the hide-and-seek games language is playing with us is its metaphoricity. Metaphors are so pervasive in our language that we don't even recognize them unless they jump on us. Until recently, most philosophers of language evaded the challenge of metaphors, either, like Russell, because they were defining some subset of language which was supposedly free from metaphors, or they banned metaphors from the realm of semantics, denying them meaning. I don't think it is a coincidence that in the index of one of the largest anthologies of essays in the philosophy of language (Peter Ludlow's *Readings in the Philosophy of Language* (MIT Press, 1997)), the word "metaphor" simply doesn't appear. In William J. Lycan's book "*Philosophy of Language*" the chapter about metaphors has the title "*the dark side*"; this also is quite significant. And doesn't it seem hermitic to evade a topic that other fields of language research consider to be crucial, but which is also significant in technical fields such as product development, human-computer interactionⁱⁱ etc.

It seems, if we see different approaches to metaphors conjointly, that metaphors give us a way of perceiving our world. We understand new concepts, if they are explained metaphorically, much better than if they are explained literally. Sometimes, for new concepts, we don't even have words, so we use the words of the analogous domain. Isn't it a good starting point, when we are learning about the human immune system, to see what is going on between bacteria and the white corpuscles as a battle between the intruder and the guardians of our body? Computer animations that illustrate how this process works also tend to use this metaphor. And even though not literally a military battle is going on inside the body, the comparison is not only helpful but gives us epistemic insight into the body.

So maybe there is a lot more to metaphors than just language, more than just an aesthetic value. Maybe there is something on the basis of metaphors, which is also on the very basis of human understanding.

In this paper I am going to investigate different theories of metaphor, exemplified by the debate between the two opposing camps of literalists and figurativists, representing the prosthetic vs. the organic theories.

Further, given philosophy of language's presumably intended blindness on the metaphoric eye, I will show what certain theories of metaphors might do to the foundations of the philosophy of language as well as to related fields such as epistemology and philosophy of science.

Metaphors

We are surrounded by metaphorical expressions. Unless we are very careful we will hardly ever utter two sentences in a row without using a metaphorical expression. One might object that this depends on the definition of metaphor. This is definitely so. Many metaphors have been incorporated in dictionaries, became literal. These are so-called dead metaphors. Examples are “*mouth* of a river” or “I *see* what you’re saying”.

Other metaphors are in everyday use, but still recognized as metaphors, such as “Necessity *is the mother of* invention”. Then there are rather poetic ones, like “Juliet *is the sun*”. One question is if there is a real difference between these types or if we are just more aware of metaphoricity in the latter cases.

The question philosophers, cognitive scientists and linguists are most concerned with is the question of metaphorical meaning. Obviously we understand metaphors and obviously they mean something to us; but what is it?

First of all, how do we recognize metaphors? In classical views, two features seemed to give us evidence for the presence of a metaphor:

- Firstly, metaphors are literally false.
- Secondly, when a speaker uses metaphors, hearers must go beyond the literal meaning to arrive at the speaker's intention.

These two assumptions, even though they are successful in many cases, have some flaws. Not all metaphors are literally false. Mao’s “Revolution is not a tea party” is literally true, but it’s meaning, as we all would agree immediately, goes beyond the literal reading. An objection to the second assumption is that the literal meaning might not be as restricted as we think when we open a dictionary.

Two schools of thought control the metaphor research. The literalists and the figuralsists. I will give a short introduction to both fields, including major proponents.

The literalists

In the literalist’ view, a metaphor is a mere rhetorical figure or an ornate device. It may give us some epistemological inspiration, may lead us to form certain hypotheses that we can evaluate later, but it doesn’t affect our internal structure of concepts. Metaphor is a matter of language, not of thought. Accordingly, the literalists claim that we can paraphrase metaphors in literal terms.

The predominant supposition is that we understand an utterance first literally. If the literal analysis doesn’t make sense to us, we try to derive alternative metaphorical meanings. The conclusion would be that a metaphorical meaning should be ignored whenever the literal makes sense. Searle is a proponent of this theory (Searle 1979).

Searle's account of metaphors can be roughly equated to Grice's theory of linguistic meaning and speaker meaning. An utterance has both a *literal sentence meaning* (LSM) and a *speaker utterance meaning* (SUM). In a literal expression L of a conceptual structure x:

$$\forall x \text{ SUM}(\text{L}(x)) = \text{LSM}(\text{L}(x)) = x.$$

For a figurative expression F(x), $\forall x \text{ SUM}(\text{F}(x)) \neq \text{LSM}(\text{F}(x))$.

To go on with the logical expressions, Searle makes the expressibility claim that any conceptual structure has a literal expression:

$$\forall x \{L(x)\} \neq \emptyset$$

If we accept this, then $\forall x(\exists l(l=L(x)) \& (LSM(l) = SUM(M(x)))$

This just means, accepting the assumption that every concept can be expressed literally, that there is no figurative/metaphorical expression that cannot be translated into a literal expression.

There is definitely a flaw in here. Even though maybe the truth value that the metaphorical expression should have conveyed can be maintained in the literal translation, the expressiveness of the metaphor will be higher. How many pages would it take Romeo to explain, "Juliet is the sun"? No matter how long, he would think that something is missing.

Another proponent of the literalist theory is Donald Davidson. In his analysis, metaphors belong in the domain of pragmatics:

"I depend on the distinction between what words mean and what they are used to do. I think metaphor belongs exclusively to the domain of use."ⁱⁱⁱ

Semantics remains pure and unambiguous. Words mean what they lexically mean. As many other philosophers of language do, he assigns the dirty work of resolving ambiguities to pragmatics. There is one way to agree with Davidson from a contemporary point of view. What if a word has a "literal" mental image? What do all the different senses of 'go' or 'drop' have in common? So much that we're not surprised to hear another one we ourselves didn't use before. We can drop many things: pencils, classes, girlfriends, tears, we can go somewhere, go crazy, things go wrong, etc. we even feel comfortable to use words in new contexts, giving them another meaning or at least other connotation. But maybe, in some abstract sense, the mental images the words 'go' or 'drop' invoke, are similar. With the mental image theory, even Davidsons next claim makes sense.

"Literal meaning and literal truth-condition can be assigned to words and sentences apart from particular contexts of use".^{iv}

But it is absurd if literal meaning means something like lexical meaning. It has been successfully refuted by cognitive science and cognitive linguistics. The meaning of a word is always dependent on context.

Other literalists modified the notion of literal meaning and extended it to a mental representation of concepts. This *canonical meaning claim* goes back to a notion of a language of thought as proposed by Fodor (Fodor 1975). According to this thesis, meaning is encoded in our mind so that different words can trigger the same atomic concept in our mind and different concepts can be activated by one expression. Even though this hypothesis has been criticized because of logical flaws, I think the basic

assumption that we do not actively have to look for other meanings of a word, but they are associated to a higher level representation in our mind, can be supported. When we say “necessity is the mother of invention” everyone immediately understands. Nobody would first think of a biological mother. Maybe “mother” triggers a concept of birth and as such creation in this case and a concept of comfort, warmth and understanding in other cases, for example when we say about someone that “she’s like a mother to me.”

On the other hand, in this case the structure is already set. There is no room for metaphors to be a basic epistemic device. Research and experiments in cognitive science and linguistics showed that metaphors have a basic impact on the way we structure our world. The figuralist view takes this into account.

The figuralists

As we have seen above, a problem for the literalist theory is that it is not always the case that the literal meaning is the real meaning of the expression. In fact, people always also process the metaphorical meaning of a sentence, even if the literal meaning is true. Experiments showed that it doesn’t take us longer to understand a metaphorical expression than a literal one (Glucksberg et. al. 1982). Basic figuralist claims are the **naturalness** of metaphors, meaning that metaphors are an organic component of human language and cognition, rather than being a semantic anomaly we somehow have to make an effort to decode. As such, metaphors are a basic tool for us to understand the world. Metaphors help us structure our knowledge by drawing analogies and reducing the amount of information we have to process when we encounter new situations or are exposed to new knowledge. In this sense, metaphors give much more insight in the structure of our mind than literal expressions do. Our dictionary rather seems to be an encyclopedia or an ontology (in the Artificial Intelligence sense of the word). Not only meaning, but also world knowledge and relationships between concepts are attached.

One of the best known proponents of this theory is Nietzsche. He goes to extremes with his natural view of metaphors. Everything is metaphor.

‘What is truth? A moving army of metaphors, metonymies and anthropomorphisms, in short a summa of human relationships that are being poetically and rhetorically sublimated, transposed, and beautified until, after long and repeated use, a people considers them as solid, canonical, and unavoidable. Truths are illusions whose illusionary nature has been forgotten, metaphors that have been used up and have lost their imprint and that now operate as mere metal, no longer as coins.’^v

Of course not all language is metaphorical. But Nietzsche gives us insight into a great misconception of our culture, that we are able to speak the truth without bias, thus making Russell's endeavor extremely difficult. In contemporary research (Lakoff, Turner), language has been caught to be metaphorical to the core. Metaphors pervade our language much more than we think, because we are used to these metaphors. We don't think twice when we say "I see what you mean", even though seeing is a visual process and we can't literally see what someone means. Nobody, unless he wanted to be obnoxiously smart would respond to such an utterance that it was not possible to 'see' what he meant. But it is not only that we are just used to these metaphors, our perception of the world is affected by them. Lakoff identifies certain basic metaphors that pervade our cognition and calls them *conceptual metaphors* (Lakoff 1993). Conceptual metaphors can be understood as mappings from one domain to another. One of these conceptual metaphors is LIFE-AS-A-JOURNEY. Within this conceptual metaphor, we have expressions like "I've got so far but now...", "I am standing on the crossroads of my life...", "I am stuck in a situation..." etc. Similarly, we have the conception of ARGUMENT-AS-WAR, where we "attack weak points" in one's argument, "win" or "lose" a discussion etc. This is not an extraordinary way of talking about arguments, *the essence of metaphor is understanding and experiencing one kind of things in terms of another. ... ARGUMENT is partially structured, understood, performed and talked about in terms of WAR.*^{vi}

Lakoff's contemporary theory of metaphor also refutes the view that a metaphor could be seen as a mere simile. Life is a journey, not like a journey. We wouldn't apply the same connotations to same expressions, if it wasn't so. It is good to keep moving; stagnancy is bad. In other cultures, where life is associated with another metaphorical representation, people may think it is good to take a rest and look back on what one has accomplished or to plan further steps. I also used the metaphor here. It is almost impossible to evade words in this context that are not also associated with physical movement.

A summary of Lakoff's theory:

- Metaphor is the main mechanism through which we comprehend abstract concepts and perform abstract reasoning.
- Much subject matter, from the most mundane to the most abstruse scientific theories, can only be comprehended via metaphor
- Metaphor is fundamentally conceptual, not linguistic, in nature
- Though much of our conceptual system is metaphorical, a significant part of it is nonmetaphorical. Metaphorical understanding is grounded in nonmetaphorical understanding.
 - o We have to have some points from which we can start

- Metaphor allows us to understand a relatively abstract or inherently unstructured subject matter in terms of a more concrete, or at least a more highly structured subject matter.
 - o The question here is of course what is meant by understanding. Do we just understand the source domain and apply our knowledge to the target domain, where we can be wrong, or do metaphors provide a means to really fathom the target domain.

Before I discuss the impact of the figuralist/contemporary theory of metaphor, I want to discuss the relation between science and metaphors a little.

Science and Metaphors

In medieval times, analogical reasoning was considered to be a scientific process. People saw similarities and analogies everywhere. The investigation of these similarities was considered to give scientific insight into the nature of things.

The stars are the matrix of all the plants and every star in the sky is only the spiritual prefiguration of a plant, such that it represents that plant, and just as each herb or plant is a terrestrial star looking up at the sky, so also each star is a celestial plant in spiritual form, which differs from the terrestrial plants in matter alone..., the celestial plants and herbs are turned towards the earth and look directly down upon the plants they have procreated, imbuing them with some particular virtue (O.Crollius, 1624)

Everything was related in a certain way. It was impossible that the creator could have spread out things randomly. With enlightenment and modern scientific investigation, reasoning by analogy lost its force in scientific domains. Today no scientist would dare to say that a plant *is* a terrestrial star, *is* an upside-down animal or would utter other wisdoms along these lines. But the human brain evolves slower than the scientific progress. We use analogies to reason in our everyday life. The world is simply too complex to be fully fathomed by our minds. So we have to apply our categories onto it. And circularly, these categories, because we invented them, resemble each other.

But even granted that science took large steps from this time until today, we rely heavily on inductive reasoning, which is basically a form of analogical reasoning applied to a single domain. Statistics and data from multiple experiments which, if within a certain deviation, is seen to support hypotheses, if we just take the mean. (Of course this is a simplified view of scientific practice). Another point is that science is in practice not as truth-driven as it claims. Many factors sum up to the outcome of a scientific project. Social pressure and the fact that scientists often are under compulsion to bring results can shift the priorities from truth, or let's say scientific correctness, to other factors.

This should basically be a footnote to the obsession with the truth-falsity dichotomy in analytic philosophy. If even in fields where, according to scientific ethics, truth should have the highest priority, the actual process turns out to be different, how should language, or how should we, as speakers, even if we have the most honest intentions, produce truths?

I should put this last statement into perspective. How is it possible for us to say we know something is true, if we apply the favored correspondence theory of truth? What should give us the confidence that we are essentially any better than our ancestors who thought it was true that the sun revolves around the earth or that Zeus throws lightning towards the earth? What gives us confidence that with the next scientific revolution our truths won't be negated? Applying correspondence theory and still having some kind of

scientific honesty implies that we can never say that something is true. Maybe true according to some system, like arithmetic, for example. But this is just a system and as such invented to be consistent. (“Got you on this one” says Goedel). Objects in the world are not true or false, they just are. Statements about these objects can have a truth-value. But statements are expressed in a language, a mediator between us and the object or the state of affairs. If the language is not able to sufficiently express the entity, every statement will be at least incomplete. Correspondence theory seems to presuppose some kind of valid and accurate conceptualization, some kind of platonic heaven where eternal truths reside. We can test it. In cases that are not as straightforward as ‘snow is white’, correspondence theory fails. ‘I am standing in front of the building’ is true relative to my perspective. ‘Italy is boot shaped’ and ‘France is hexagon shaped’ is roughly true, but true enough to meet the demands of correspondence theory?

Metaphors and the philosophy of language

The philosophy of language is in a dilemma when it comes to metaphors. The rigid guidelines it imposed on itself force philosophers to ignore or work around metaphoricity. Four basic assumptions explain this dilemma:

- The correspondence theory of truth.
- Meaning is defined in terms of reference and truth.
- Natural language semantics is to be characterized by the mechanisms of mathematical logic.
- Syntax, semantics and pragmatics are distinct categories of language.

I already objected the correspondence theory of truth. In a relativized fashion, in a normative context, as an imperative, I could make it agreeable. “Try as hard as you can to find the best evidence that your claim corresponds to what you and preferably many witnesses perceive as the entity described.” But it seems very naïve to apply correspondence theory of truth to such a vital system as language. Nobody, except for those who keep on repeating ‘snow is white’ and ‘ $1+1=2$ ’ etc., would speak the truth.

Even if we are tolerant with our truth conditions and let vague statements like ‘Italy is boot shaped’ come out true, metaphors will raise a problem for correspondence theory. Here we are facing a situation in which the truth value of the literal meaning of the words is often simply false. On the other hand we know that it is true. So either we need to revise our criteria for a statement being true or we have to work around the problem. The latter is what has been done so far. Metaphors have been paraphrased into literal expressions. Technically this is possible. As mentioned above, the paraphrase will not be as expressive as the metaphor itself, which would not be relevant, because we just want to determine its truth value. Then we can throw the paraphrase away. But the whole procedure seems to be against our basic use of language. If, as Nietzsche puts it “*The*

drive toward the formation of metaphors is the fundamental human drive, which one cannot for a single instant dispense with in thought, for one would thereby dispense with man himself.”^{viii}, then we do violence to our own language and even more, our own understanding of the world. This goes back to point three of the basic assumptions of philosophy of language, the reliance on a symbolic logic system. First we translate a statement into a symbolic representation, then we use this translation to reason about the statement. The translation disambiguates the statement, but often, if we are not speaking Russell English, there is intended or unavoidable ambiguity in utterances. So what we basically do is weaken our language, we truncate its expressiveness to achieve definiteness.

Lakoff (1980) offers a theory of truth that can account for metaphors. He named it the *experientialist account of truth*, which incorporates elements of correspondence theory, coherence theory, pragmatic theory and classical realism:

We understand a statement as being true in a given situation when our understanding of the statement fits our understanding of the situation closely enough for our purposes.

Since we understand situations and statements in terms of our conceptual system, truth for us is always relative to that conceptual system. Likewise, since an understanding is always partial, we have no access to “the whole truth” or to any definite account of reality.

Lakoff realizes that truth, as well as meaning, is context dependent and that we shouldn't expect too much from our striving for truth. “The whole truth” is something we cannot know. We can tell that something is true only as far as we can tell that it is true. We can gather evidence, ask trusted sources etc, but we can never be sure. Metaphors allow us to escape this, because using a metaphor, we don't even try to describe the world or the state of affairs as it is; we map it to another concept, something is true relative to something else. Using this reasoning, our expression has to be coherent with the concept structure it is mapped onto.

To account for the second point, the problem of reference, Kittay (1987) discusses two approaches. The first one along the lines of Donnellans(1971) attributive vs. referential use of expressions, the second one goes in the direction of Kripke's chain of references. Donnellan's distinction is semantic in nature. The attributively used expression literally says what it means (See also Searle's LSM). In the referential case, the reference to the literal referent may fail, but, determined by the context, the intended reference still succeeds. Kittay sees the latter as one approach to how metaphors can refer.

The second involves a chain of anaphoric reference. This can either be accomplished by pointing out the object the metaphor refers to, or one link in the anaphoric chain has to be a rigid designator. It doesn't matter, if the link is at the beginning or the end.

A problem I see with reference in metaphors is that it often doesn't refer at all and still makes sense. At least, it doesn't refer rigidly to some entity. It rather refers to certain relationships between concepts or some virtues one is supposed to have "Richard is a lion" is an example for a literal reference to an object, where the metaphorical reference is a property. In the metaphorical case, reference, at least in a rigid sense, fails.

A conclusion we can draw is that, to understand a metaphor, we must have a starting point, a source domain. In the case of "Richard is a lion", assuming we are talking about King Richard, we know that we are talking about a human being. Now we can map humans and lions. Without the source concept we would be lost. Here Kittay's anaphoric chain holds. Somewhere in the context, there must be a pointer to the source domain. It doesn't matter, if this pointer is a rigid designator or another form of index. Given the sentence "no man is an island", reference fails in the literal reading. The subject 'no man' doesn't exist. We understand it. Why? Do we understand it in terms of speakers reference? Do we understand $\forall x \in \{\text{man}\}(\sim \text{Island}(x))$, where $\text{Island}(x)$ is metaphorical? We could say that, but I don't think this is the way our understanding works. Language understanding and understanding of meaning is not symbolic. We have no problem referring to nonexistents and still make sense of the utterance. The reason is that our mind has obviously an incredible mapping capability and imagination. We can reserve a place in our mind for the concept "no man" or "the present king of France". We can map concepts, in the most absurd ways, if necessary. We like to make sense of what has been said, because basically we are credulous. Much of our social life is based on the assumption that we can trust, what other people say. Even the most pessimistic misanthrope who has no belief in the honesty of people would rather believe than not believe in an actual conversation. Glucksbergs(1982) experiments showed that it takes us much longer to process sentences we would say are false or make no sense than sentences that are meaningful, even if the meaning involves analyzing the metaphor at different levels.

Participants were to identify the following sentences as true or false:

- 1) Some jobs are jails.
- 2) Some roads are snakes.
- 3) Some jobs are snakes.

Sentence 3) took the longest time to neglect, while confirming 1) and 2) seemed to be an easy task. Something tells us that even colorless green ideas sleep furiously.

Lakoff is not really concerned with the question of reference. The role of metaphor is clearly one of understanding the world. So if something doesn't refer, what does it matter, as long as I understand what it means to us and that we can use it for purposes of understanding other concepts.

Metaphors are basically devices for understanding and have little to do with objective reality, if there is such a thing.

The fact that our conceptual system is inherently metaphorical, the fact that we understand the world, think and function in metaphorical terms, and the fact that metaphors can not merely be understood but can be meaningful and true as well – these facts all suggest that an adequate account of meaning and truth can only be based on understanding,^{viii}

If we take Nietzsche seriously, we have to ask anyway: “is there anything besides metaphors that actually can be true (in the light of correspondence)?” Did philosophy of language try to find truths everywhere but there where it can be found, because we defined it so; but instead of looking away from categories and concepts it tried to wipe the fug of metaphoricity off the concepts that actually exist through metaphors? If we want to find the world behind the grid we put over it, we will probably have to learn more about its randomness, its continuity and its being in a constant flux. Truth works on ideas, ideas are concepts, concepts are created by man, man thinks in metaphors. The basic assumption that there are true concepts reveals itself in the ideas of rigid designation, binary truth values, realm of thoughts, essences, but also the strict partitioning of the field; syntax, semantics, pragmatics. We have seen how much confusion the strict semantics-pragmatics dichotomy can bring. Language is more like a living thing and actually it is very surprising that it has a relatively strict syntax most speakers more or less regularly follow. But living things evolve and change and unless we have a separate category for every entity on this planet, there will always be one that is between two categories. There will never be such a thing as pure semantics or pure pragmatics. We will always fight about the boundaries.

If it makes sense that philosophy of language on the one hand denies the truth-orientedness of metaphors, but on the other hand is itself based on a rather metaphorical system, it should realize its need to at least look at other sciences that are concerned with the same object of inquiry. I believe that every endeavor to normatively influence language is a priori doomed.

Conclusion

Metaphors arise from the existence of concepts and vice versa. Both are inherent in our culture and in our language. Concepts are metaphors. We have many concepts of space, shape, boundaries, species, truth, etc., which are purely metaphorical. When does a mountain cease to be a mountain and become a valley? When the world fit the concepts man imposed on it, metaphors did not pose a problem. On the contrary, they were truth preserving, as it can be seen in the example of the medieval reasoning. Now that we started doubting our own conceptualization of the world, the old metaphors clash with our new view of the world. They are not truth preserving any more. On the other hand,

these concepts that cease to exist, especially concepts of tradition, but also scientific concepts that saw the world in a rather static way, are still inherently active in our language and our cultural ontologies. And this is good for us. We cannot deconstruct our whole world and still expect us to understand what is going on. I believe a great step has been made by Nietzsche in recognizing that our truths are basically illusions of truth. Illusions we live by, metaphors we live by. But these illusions help us to survive and to understand. Who cares, if we understand the real thing or just the part we need? Maybe it is only the part we can understand in the first place, so it really doesn't make a difference.

Russell's approach to find a language that is free from ambiguities is probably doomed from the start. Metaphors pervade our language and even seem to be a basic cognitive tool for our understanding of the world. Metaphors can help us to discover new concepts, see old concepts in a different light. In one respect, Russell's approach is safer and it helps to at least create less falsities. Metaphors can also be seductive and misleading. It is easy to generate metaphors that relate concepts, which are not in fact related.

I also want to make a small comment from an artificial intelligence point of view. Lakoff suggests that his theory poses many problems also to current AI paradigms like the physical symbol system approach of cognition. In fact, I believe that AI can learn a lot from the analysis of metaphorical thinking or analogical reasoning. Current developments in AI and WWW force us to build more and larger knowledge bases and world models. Ontologies in the AI terminology. If concepts are man-made, then they are at least metaphorically biased. If we can find a way to make a computer do a mapping similar to the reasoning we, as humans, do, many problems in knowledge base/ontology development and use could be solved. We don't have formal models for every domain, but if there are basic metaphors we always apply in our thinking, our reasoning processes, then there might be a way to make a machine simulate our concept mappings, making the machine generate models or conceptualizations of domains for us. In the current context of AI and Semantic Web research, this is one of the most crucial and greatly anticipated inventions.

This essay is both a survey of current metaphor research and a statement of my opinion regarding metaphors, but also regarding the factual impossibility but practical necessity of conceptualization. I hope, even though many arguments could only be adumbrated, that I could give an idea of the way metaphors pervade our conceptual system, our language and therefore our thinking and how conceptualization is not only biased, but in essence made possible by our ability or determinedness to use and understand metaphors.

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ⁱⁱ Olle Torgny: Metaphor - a Working Concept http://www.svid.se/ead_docs/torgny.PDF

ⁱⁱⁱ Davidson, D. (1979). What Metaphors Mean, in *The Philosophy of Language*, ed. A. P. Martinich. Oxford University Press: London.

^{iv} Ibid.

^v Friedrich Nietzsche (1873), “*Über Wahrheit und Lüge im aussermoralischen Sinn*” [*On Truth and Lies in a Nonmoral Sense*]

^{vi} Lakoff, G. & M. Johnson. (1980)., p 5

^{vii} Friedrich Nietzsche (1873), “*Über Wahrheit und Lüge im aussermoralischen Sinn*” [*On Truth and Lies in a Nonmoral Sense*]

^{viii} Lakoff, G. & M. Johnson. (1980)., p 184