The Semantics of Metaphor in the Game Theoretic Semantics with at Least Two Coordination Equilibria

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Abstract

The objective of this paper is to present a new dimension of Game Theoretic Semantics (GTS) using the idea of the coordination problem game to explain the semantics of metaphor. A metaphorical expression[1] such as 'man is a wolf' is a contradictory statement that insists all objects in the set of 'man' also falls under 'wolf'. The study of metaphorical expression should be on intentions of such contradictory language use, their intended effect, and the conditions to lead to the effects. This is the tradition of Rhetoric since Aristotle. It may be natural to characterize this approach as pragmatic in the tradition of the late 20th century paradigm of linguistics, which is the trichotomy of syntax, semantics and pragmatics. However the pragmatic approach cannot explain what Richards (1936) called 'tension' between two thoughts in a metaphorical expression. GTS has been developed as a possible substitute to the Tarskian truth conditional semantics. This paper explores a new possibility of GTS in the coordination problem game introduced by Lewis (1961) for a semantics, which admits the plurality of meanings.

1 Introduction

The objective of this paper is to present a new dimension of Game Theoretic Semantics (GTS) using the idea of the coordination problem game in a search for the semantics of metaphor:

(ex.1) 'Man is a human being.'

(ex.2) 'Man is a wolf.'

If being 'man' presupposes being 'human being', then what (ex.1) means is that all objects falling under the category (or the set) of 'man' also fall under 'human being', so (ex.1) must be true *a priori*. In the same way, (ex.2) means that all objects falling under 'man' also fall under 'wolf', and this must be false, a contradictory expression. But we can easily imagine some situations where (ex.2) would be meaningful.

EXAMPLE: Sue went to a party. Her friend, Pam introduced Ian to her because she knew Sue had broken up recently, and she had a belief that Sue should have a new partner. Sue enjoyed the conversation with him and found

[1] In this paper, I say 'metaphorical expression' rather than 'metaphor'. 'Metaphor' is commonly used as a topic, but it is used at word level in traditional rhetoric and at sentence level after Black. Also, 'metaphor' is used for both metaphorical expression and a kind of trope. So I use 'metaphorical expression' to refer linguistic expression which is commonly called 'metaphor'.

him very attractive. Ian appeared to feel the same way. When Sue took her leave, Ian offered a lift for her. Pam, who was watching out for them, winked and said 'Sue, ''man is a wolf'', you know'.

In this example, Pam's uttering 'man is a wolf' does not seem contradictory. It is very natural and looks meaningful even though it may admit several interpretations. Therefore, this kind of sentence can be meaningful in our everyday usage.

But uttering a contradictory expression is a deviation from our general understanding about language use. The utterer's intentions as to why such a deviation is made, its intended effects and the conditions to materialize the intended effects: these have been the objective of the study of metaphor in the tradition of rhetoric.

Metaphor has been regarded as a part of rhetoric. But if we focus on the fact that it uses 'utterer' and 'use' as its items, it may be natural to regard rhetoric as a part in pragmatics in the trichotomy of syntax, semantics and pragmatics in the late 20th century linguistic paradigm. In the first section, I will examine the pragmatic approach, Aristotle and Davidson, and make clear that these are not enough to present what metaphor means, and we need to choose a semantic approach.

Richards, who opened the new path to semantics, introduced the idea of 'tension'. In the tradition of rhetoric, metaphor had been thought to have 'two thoughts in a sentence'[2] (Richards). Richards explained the special property that metaphorical expression has and normal expression does not, is in the tension, which is born between these two thoughts in one expression. What Richards calls 'tension' is the interaction of meanings between literal meaning and metaphorical meaning in an expression. This 'tension', which cannot be explained by a pragmatic approach, is the foundation of the semantic approach lead by Richards and Black.

[2] What Richards means by 'thoughts' is not clear, but I assume it is literal meaning and metaphorical meaning. Partly he seems to admit two meanings and partly he seems to admit only one meaning in metaphorical expression. Sometimes he seems to mean comparison objects as in comparison theory. However what is important is not what he meant, but what he suggests.

However, even semantic approach had failed to explain 'tension' completely. It is because major semantics based on the Tarskian truth definition state the meaning of a sentence is only one. 'Tension' needs to have more than two meanings in a sentence by definition.

Existing GTS uses mainly zero-sum games. The equilibrium is corresponded to the meaning of a sentence, so each sentence has one meaning. This does not meet the condition of meaning that we demand for the semantics of metaphor in the line of Richards' idea.

The coordination problem game is a type of game which Lewis analyses as a part of this theory of convention (Lewis, 1961). There must be at least more than two equilibria in the game by definition. If we apply this game as a model of meaning in GTS, those equilibria can correspond to the plural meanings in a metaphorical expression. This conclusion promises us a simple model of the complex state of meanings in figurative language.

2 From Pragmatic Approach to Semantic Approach

In this section, I criticize Aristotle and Davidson as representatives of the pragmatic approach to the study of metaphor and show that the semantic approach is necessary for the study of metaphorical expressions. Afterwards, I analyze Richard and Black's semantic approaches and point out that pragmatic elements are still left in their approaches. A more abstract semantic approach is needed.

2.1 Aristotle and Traditional Rhetoric

Aristotle's ''Poetics'' and ''Rhetoric'' have been the foundation of rhetorical studies for more than 2300 years. Aristotle regards metaphor as transference and this thought has lasted as the core idea in the tradition of rhetoric.

> Metaphor is the application of an alien name by transference either from genus to species, or from species to genus, or from species to species, or by analogy, that is, proportion. (1457b)

According to Aristotle, expression 'the twilight of gods' is a transference between 'twilight' and 'last' which have similarity (end of something). By similarity, words are connected and can have the other's meaning. In other words, similarity lets

words have other meanings (metaphorical meanings) that the words originally do not have. Black calls it the substitution view of metaphor (1962).

Substitution theory insists that the reason for metaphorical expression is in its psychological effects to hearers. Here, metaphor is studied in terms of how it is used and what the effect is of language use. This let us categorize substitution theory as a part in pragmatics. Pragmatics is the study about how and why language is used, using user and use as the terms. So does substitution theory.

2.2 Davidson's Pragmatics

Davidson is regarded as one of the leading philosophers in the pragmatic approaches. He denies metaphorical meaning in metaphorical expression, which has never been doubted without much argument. Metaphorical expressions have literal meaning only. We realize an expression is metaphorical though a purely pragmatic process. An utterance is made and the conditions bring us to realize that the meaning of the utterance is not literal (Davidson, 1978).

What Davidson explains is only this realization of non-literal meaning. Metaphorical meaning itself is denied and he makes it clear that there is no such thing as metaphorical meaning, a special kind of mental, cognitive property. This is remarkable progress from Aristotelian substitution theory in terms of avoiding problems of paraphrasing which I will criticize in the next sub-section in detail. Davidson says; 'If this is right, what we attempt in "paraphrasing" a metaphor cannot be to give its meaning, for that lies on the surface; rather we attempt to evoke what the metaphor brings to our attention.' (Davidson, 1978)

What paraphrasing attempts is not similarity between literal meaning and metaphorical meaning. Since Davidson denies metaphorical meaning itself, he does not need to compare two meanings.

There are at least two points to criticize Davidson. Firstly, to pursue what is the meaning of metaphor itself is a very important question and Davidson's reply is just an escape from the problem, though it is quite a remarkable escape. One says 'he is a pumpkin' and if another does not understand the utterance and asks what it means, paraphrasing ('it means he is very stupid') is a possible answer and the paraphrasing does have sense. Paraphrasing may not be able to have exactly the same mental content that the original metaphorical expression has, but it does have a part of it. Otherwise the hearer cannot be persuaded.

Secondly, insisting there is no such thing as metaphorical meaning is a revolution and very inspiring, but it might be too unnatural since we can talk and wonder about it. In this field of study, reality has a special sense because what we argue about is mainly abstract objects that do not need to exist. However, we should stick to our reality, our sense of naturalness, not to recreate our language understanding to fit our theories. What matters to us with metaphorical expressions are not only the utterer's intention, but also the meaning of the expressions.

2.3 Problems in Substitution Theory

The first two of the following points are major criticisms of substitution theory. Firstly, the metaphorical meanings of a metaphorical expression do not substitute all of the literal meaning. The second point reflects my idea of understanding meanings. Substitution theory says that similarity makes a metaphor, similarity in the meanings of two compared ideas (literal meaning and metaphorical meaning) makes a metaphorical expression. But this is complete opposite.

The first objection, that metaphorical meanings in a metaphorical expression do not substitute all the literal meanings of the expression, is, in other words: paraphrasing of a metaphorical expression cannot present all the meanings that the original metaphorical expression has.

(ex.3) She is a lily of valley.

(ex.4) She is a dewy red rose.

These expressions can be paraphrased;

(ex.5) She is beautiful.

It is apparent that (ex.5) hold a part of the meanings that (ex.3) and (ex.4) have, but not all of them, because the same person may not use (ex.3) and (ex.4) to the same woman with the same sense of values. Repetition of paraphrasing may increase the richness of the explanation and lead to better understanding, but it will never reach the full meaning of the original expression.

The second objection claims that similarity does not make metaphor, but metaphor makes us realize the similarity. As Eisenstein created the 'flow' of story by montage sequence in his film ''Battleship Potemkin'', people try to find semantic connection when some information is given in a line. Especially, if it is presented as a sentence, we almost automatically try to find 'meaning' in it. 'Colorless green ideas sleep furiously' is a famous meaningless sentence written by Chomsky. He made up this sentence as nonsensical sentence, but he himself admits that it can be interpreted as a metaphor. It can be a headline of newspaper that tells Greenpeace members who lost their liveliness to stop their political activities.

Those objections above to pragmatic approach[3] to metaphor suggest that there are elements in the study of metaphor that are to be left for the semantic approach. In the next sub-section, I will revise the semantic approach in Richards and Black.

2.4 Richards' Interaction Theory

Richards introduces interaction theory that insists the meaning of metaphor is the tension between two thoughts (literal meaning and metaphorical meaning) in a sentence. Before him, metaphor had been studied at word level. Richards brought the viewpoint of semantics which focus on meaning at sentence level.

Another character of his theory is to demand unlikeliness between literal meaning and metaphorical meaning. This unlikeliness is the source of the tension, literal, artistic value that the metaphor has. Richards says, ''as the two things put together are more remote, the tension created is, of course, greater''.

2.5 Black's Interaction Theory

Black develops interaction theory to more rigid theory that covers not only figurative language but the whole of language. He introduces the idea of 'focus' and 'frame'. For Black, metaphorical expression 'Man is a wolf' is an expression that has a focus 'a wolf' in a linguistic frame of 'man is'. This frame is literal, but it will be contradictory when 'a wolf' is also literal (principal subject). We realize this categorical mistake and find 'focus' metaphorical meaning (subsidiary subject) led by association of commonplaces. Associated commonplaces enable us to share the same metaphorical meaning for the same expression. Literal meaning is inferred first, then after realizing its categorical mistake, metaphorical meaning is inferred. This inference model is often used in the semantic approach after Black.

2.6 Problems in Interaction Theory

In the two previous sub-sections, I have revised the main characters of Richards and Black's interaction theory. These are more sophisticated than Aristotelian substitution theory for admitting the dynamics of meaning. However some problems also remain in interaction theory.

Firstly, Black succeeds to explain why we understand the so-called 'dead metaphor' in the same way, why we see similarities in metaphor by introducing the idea of 'associated commonplaces'. But this also weakens the creativity of new metaphorical expressions. If 'associated commonplaces' gives us stable understanding of meanings, this also prevent us not to have a new metaphorical meaning out of the system.

Secondly, although Black strongly insists the necessity of semantics in his study of metaphor, Black's theory uses the inference model which is very pragmatic. What he tries to express in his semantics was the meaning which is understood in context. Therefore he needs inference model and associated commonplaces. I do not deny the inference model. We use our inference in our language use to determine one meaning for an expression. But semantics, which gives the foundation of meanings to language use, should avoid such a pragmatic process. We should separate semantics and pragmatics as clearly as possible.

3 Tasks for the Semantics of Metaphor

In the previous section, we have overlooked some major theories for metaphor. I sorted them into two types, the pragmatic approach and the semantic approach. What is characteristic in the pragmatic approach is that what matters in a metaphor is its use and effect. In Davidson, he even denies meta-

[3] Here, I would like to state what I mean by 'pragmatics'. I interpreted Aristotle as a pragmatist. In Aristotle, language use is judged as rhetoric when the use is understood. It is a context-conscious theory. Semantics carries a different task. It should give the foundation of meaning. It should give other property different from the condition of language use.

phorical meaning and replaces it with the psychological effect of literal meaning. The semantic approach like Black criticizes Aristotelian paraphrasing and admits metaphorical meaning delivered though inference. This also means that metaphorical meaning is subsidiary meaning.

These two are very complex and we cannot see a clear confrontation between them. The pragmatic approach cannot avoid referring to metaphorical meaning when we consider the reason of metaphorical language use. The semantic approach also cannot evade using inference model, which may belong to pragmatics.

Let's be naive, and remember how we read a new metaphorical expression.

(ex.6)
'She was a swan floating on the sea;
alone swan on the sea of sorrow
blue sea, nor blue sky could not hold her.'

Do we think about their literal meanings? No[4]. We understand the metaphorical meaning of 'sea of sorrow' before thinking of its literal meaning. And when we enjoy its literal value, we read (or hear) it again and again, may think about its metaphorical meaning and literal meaning. We do enjoy these two thoughts in an expression, and the tension that those thoughts create. In this account, I follow interaction theory that Richards insists.

What I have argued in this section are;

1. A metaphorical expression has some meanings including literal meaning and metaphorical meaning.

2. Metaphorical meaning cannot be paraphrased. Repeating paraphrasing cannot give the original metaphorical meaning.

3. Semantics is a description of language expression, not language interpretation, so it should exclude the inference process as a part of it.

The four theorists we have reviewed cannot satisfy these three conditions. To meet the demand, we need to have a semantics, which allows the plurality of meanings in an expression.

4 GTS with the Idea of Coordination Problem Game

GTS (Game Theoretic Semantics) has been developed as an alternative semantics where major semantics have been based on Tarski's definition of truth. As the name shows, GTS is a semantics that models the idea of game theory. Most GTS theorists use zero-sum games between two players, Myself (Verifier) and Nature (Falsifier) for in Hintikka, for example. Verifier tries to make a sentence true and Falsifier does the opposite. Whether the sentence is true or false is known by knowing who will win the game. It is to state one meaning for a sentence, and the meaning is compared with an equilibrium in a game. However, if we keep using zero-sum games, we cannot represent more than two meanings in a sentence.

4.1 Coordination Problem Game

Coordination problem game, which is analyzed and defined by Lewis (1961), is a game with at least two equilibria. Suppose we are talking on the telephone and in the middle of the conversation, the line is suddenly cut off. I will wonder whether I should call back because if you call me while I call you, the line will be busy and we cannot reach each other. At the same time, you must be wondering if you should call me. This is a problem.

In this telephone line case, it can be a problem because there are at least two equilibria in this situation; one is the caller calls back and the receiver waits, and another is the caller waits and the receiver calls back. Which to choose is not a problem. The important thing is that there are two equilibria, which are indifferent for the caller to choose, so they wonder. Lewis calls this kind of problem 'coordination problems', and equilibrium 'coordination equilibrium'. Players of these games wish to coordinate according to their expectations about what the other is going to do to gain a better outcome comparing to not coordinating.

[4] I have received some inspiring commentary on this point. Some argue that they gain mental image of a literal sea immediately after reading it. My answer to this claim is what they gained is actually a metaphorical meaning of the expression. Literal 'sea' has a contradiction to 'of sorrow'. The image may resemble to its literal meaning though.

The coordination problem games have at least two coordination equilibria by definition. Therefore using GTS with a coordination problem game, we can represent a sentence having more than two meanings.

A metaphorical sentence corresponds to a coordination problem game which has two equilibria that correspond to literal meaning and metaphorical meaning. Since both coordination equilibria are same in its role as equilibrium, none of the meanings is superior or inferior (Figure 1).

Coordination Equilibrium Literal Meaning	
	Coordination Equilibrium Metaphorical Meaning

Figure 1

Interestingly, this coordination problem game also has 'tension'. A player of this game has to make a choice which will be meaningless if his choice differs from another's. We do not wonder when we have only one choice. We have to take it. But the players in coordination problem game have at least two choices. This presence of two choices itself is the 'tension' of the metaphorical expression. Being of one affects the other. They interact. The reason of enjoyable uneasiness of metaphorical expression is in this interaction in this polysemy.

With GTS extended by coordination problem game, we gain the following three points.

Firstly, semantics that allows more than two meanings for a sentence is possible. The semantics also promises us to find both literal and metaphorical meanings in a sentence.

As a result of the first point, metaphorical meaning does not remain in its subsidiary position inferred from primary meaning. It is a meaning as important as literal meaning.

The being of two equilibria represents 'tension' that Richards insists as the character of the meaning of metaphorical expressions.

4.2 Difference from Hintikka's GTS

This coordination problem game is very different from what Hintikka and his followers use. In Hintikka's GTS, game directs the logical operation of logic of a sentence in order to state truth and falsehood of the sentence. It is because the meaning of the expression is to be one.

On the contrary, coordination problem game itself cannot be operated as Hintikka's does because the game has two equilibria and this is the point of the game.

However Lewis starts his analysis from the game and ends in convention. According to Lewis, people in the ill telephone line area start making convention that one of them (caller or receiver) should call back. After the convention spreads over the area, the game has a unique equilibrium and the residents find the problem solved[5].

In the process of building up convention, the elements to determine which equilibrium to fall in are out of the game. In the case of metaphor, I let them belong to the area of pragmatics. Though context, we use our inference system to determine, to grasp what is meant by the expression when it is polysemous. We may know what is the subject, what is the intention of the utterer, which meaning should be appropriate in the time and place when it is expressed. These are the problems to be left in the consideration of the inference process.

4.3 Problem of 'Dead Metaphor'

What makes the difference between literal meaning and metaphorical meaning? I think this is just a matter of frequency of use.

'Dead metaphor' is a type of metaphor of which metaphorical meaning is rigid and most of us understand it in same way so that often we find its metaphorical meaning in dictionary. On the other hand, we have very new, poetic metaphors that may be understood in various ways. Also there are metaphors of which metaphorical meaning became its literal meaning and do not have original literal meaning as you see in 'leg of chair'.

[5] It may remain as a coordination problem game because any new resident moves to the area, they may have same problem until he finds out the convention or is told by someone. The potential possibility of the problem is always there.

The differences between those types of metaphors are matter of frequency of use. If a very new metaphorical expression is used, its metaphorical meaning may be ambiguous, can be paraphrased but possibly misunderstood. But as the expression is used again and again, its metaphorical meaning grows to gain common interpretation in the used language. As the metaphorical meaning becomes common understanding of the expression, the metaphorical expression starts loosing its tension between literal meaning and metaphorical meaning. This is how a metaphorical expression is born and dies.

This is still just a suggestion of the life of a metaphorical expression. One of the biggest problems to this account is that it does not explain how we understand very new metaphorical expression which we had never heard of. We need the study of other level of meaning to explain it. But still, if we understand those different types of metaphorical expressions are on a same line, continuous being, it may be fruitful of the semantics of metaphorical expression.

5 Why More Than Two Meanings?

In this section, I will spread my idea of the meanings in metaphorical expressions through some observations of the usage.

5.1 Meanings in a Polysemous Expression

One of the main points of this paper is that it is aiming to express the state of meaning of an expression, not the meaning that is understood. In everyday conversation, we often assure what is the meaning of the expression that we use with phases like 'you know what I mean.' 'the meaning of this term is...'. This is necessary when we come across some polysemous expression.

If the meaning of the sentence is clear in its context, then utterer does not need to assure its meaning, but when the utterer assure its meaning with other words. Here, we see two characters of polysemous expression. Firstly, a polysemous expression has more than two meanings. Secondly, a polysemous expression need to be defined its meaning in the usage by context.

5.2 Metaphorical Meanings in an Expression

Let's go back to our familiar example.

(ex.2) 'Man is a wolf'

This is often understood as a metaphor to express man's hunger and brutality. However 'wolf' has different aspects in its image. In Mongolia, wolf is the divine animal and the Mongolian hero, Chinggis Khan is called 'blue wolf'. Other East Asian myths regard Sirius as wolf and attributes loneliness and rationality to the star. In this context, 'man is a wolf' may means 'man is a creature which has clear eyes to see and judge with his own evaluation, holds his own view even others are against him'. This image may also be found in 'lone wolf' in English.

What I intend to do here is not insisting multiculturalism. What I do is to insist that metaphorical expressions are polysemous expressions. And as I wrote above, the meaning of polysemous expression is determined in its context (if it is successful). As the name 'polysemy' tells, we attribute more than two meanings to an expression. Why can't we do same treatment to metaphors?

The 'man is a wolf' expression has at least one literal meaning which is a false expression in our world, and two metaphorical meanings. When we say we understand the meaning of an expression, this means that we choose a meaning of the expression successfully. The meaning of a metaphorical expression is inferred and one of them is chosen.

Metaphorical expressions are often found in poetical expressions.

(ex.7) 'my love wears forbidden colors'

What is 'forbidden colors'? How 'love' wears color? As the expression is newer, we consider what is really meant and try to grasp its metaphorical meaning through its literal meaning, we come and go between those two meanings[6]. In this process, we see both meanings in a metaphorical expression. When we 'taste' a poetic expression, we often go through this process and this process itself is a part of the 'tasting' of the poem. When we enjoy poems, we enjoy how the literal meaning and

[6] 'grasp its metaphorical meaning through its literal meaning' sounds as if I admit to use the inference model for semantics. But here, I am talking about how we understand, not about semantics.

metaphorical meaning are related. This is what Richards called 'tension' and this is the meaning of metaphorical expression. In order to express this 'tension', we should admit both literal and metaphorical meanings in a sentence.

5.3 The Meanings of 'meaning'

The semantics with coordination problem game have different meaning of 'meaning' from the one in traditional understanding of metaphor.

When they ask 'what metaphor mean?', they have a presupposition that there is a semantic property that corresponds to a metaphorical expression. With coordination problem game, what corresponds to a metaphorical expression is a game that has two equilibria. The meaning of a metaphorical expression is a game that has two 'meanings', which are two choices with the tension caused by the coexistence of the two meanings.

6 Conclusion

Metaphor is an expression in which there is both literal meaning and metaphorical meaning. This is my answer to the question, 'What is metaphor?'. Metaphorical meaning is one of the meanings that a metaphorical expression has. It may be clear by its context. But it is not inferred from logical contradiction when we understand the expression with its literal meaning.

Some, important problems are still left unsolved. I mention one of them as my next task to do immediately: GTS extended with coordination problem game allows us to have more than two meanings in an expression or a sentence. However, we cannot distinguish these two meanings in this GTS. Since we can distinguish which is literal and which is metaphorical, we should be able to do the same thing in our semantics.

References

Aristotle *The Poetics*, Translated by S. H. Butcher, The Internet Classics Archive by Daniel C. Stevenson, Web Atomics. URL=http://classics.mit.edu/Aristotle/poetics.mb.txt

Aristotle 1954. *Rhetoric*, translated by W. Rhys Roberts, hypertextual resource compiled by Lee Honeycutt URL=http://www.public.iastate.edu/~honeyl/Rhetoric/index.html

Black, Max 1978. in Sacks 1978.

Black, Max 1962. *Models and Metaphors: Studies in Language and Philosophy*, Cornell University Press

Davidson, Donald 1978 in Sacks 1978.

Hintikka, Jaakko and Kulas, Jack 1983. *The Game of Language: Studies in Game-Theoretical Semantics and Its Applications* (Synthese Language Library; v.22), D. Reidel Publishing Company

Hintikka, Jaakko and Kulas, Jack 1985. *Anaphora and Definite Descriptions: Two Applications of Game-Theoretical Semantics* (Synthese Language Library; v.26), D. Reidel Publishing Company

Hintikka, Jaakko and Sandu, Gabriel 1997. in *Handbook of Logic and Language*, ed. by J. van Benthem and A. ter Meulen, Elsevier Science B. V.

Hodges, Wilfrid 2001. Logic and Games, *The Stanford Encyclopedia of Philosophy*, Fall 2001 Edition, ed. Edward Zalta, URL=http://plato.stanford.edu/archives/fall2001/entries/logic-games/

Lewis, David K. 1969. *Convention | A Philosophical Study*, Harverd University Press.

Ortony, Andrew, ed. 1979. *Metaphor and Thought*, Cambridge University Press

Richards, I.A. 1936. *The Philosophy of Rhetoric*, Oxford University Press

Sacks, Sheldon. ed. 1978. *On Metaphor*, The University of Chicago Press