In this talk we will present work towards a semantics for metaphor which is inspired by the original situation semantics notion of meaning (Barwise and Perry 1983) as a relation between an utterance (or discourse) situation and a described situation. We will show how this view of meaning, with certain modifications, enables us to address some of the very difficult problems of providing a semantics for metaphorical interpretation (which have led some researchers to argue that it is not possible to give such an account). In particular, we will offer steps towards solving the problem of how to characterise meaning when there is no direct correspondence between the literal interpretation of an utterance and its metaphorical interpretation.

Consider the following:

(1) In the murky depths of my mind, I have an idea.

We all know what this means, or at least we have some notion of what we think it means. Yet, as many have pointed out, it can be surprisingly difficult to give a “literal” paraphrase of such a metaphorical expression. Attempts at literal paraphrases often result in alternative metaphors! Part of the explanation, in this case at least, may be our lack of understanding of how our minds actually work. I do not have any real knowledge of the mental processes that underlie my sense of having only a vague, hazy, partial or confused grasp of a fact, memory or idea (note, by the way, the metaphors used in this sentence…). Nor do I have any proper understanding of the mental processes whereby an idea of which I was only partially aware can suddenly become clear and prominent in my mind.

Our lack of understanding of certain domains may be one reason we employ metaphors. Even though my mind does not really have murky depths, and may not even have anything that could sensibly be said to correspond to them, the expression is a useful way of communicating something meaningful to you.

But how does this meaningful communication take place, if there is no “real equivalent” to the murky depths of my mind? Well, if a physical object (say a car tyre) is in the murky depths of (say) a pond, then we can reason that it is difficult to see and/or reach it, and therefore difficult to get hold of and manipulate it. Now suppose (as seems reasonable) that there is a perceived correspondence between physical objects (such as car tyres) that are difficult to manipulate physically and mental objects (such as ideas) that are difficult to manipulate mentally. If you know about this correspondence, then you can use it to “translate” from the domain of “metaphorical pretence” to the domain of “reality” – i.e., you can reason that if an idea (viewed metaphorically as a physical object) is difficult for me to manipulate physically, then that idea (viewed as a mental object) is difficult for me to manipulate mentally. In other words, you have gone through the following steps of reasoning:

(i) Sheila has an idea (viewed as a physical object) in the murky depths of her mind (viewed as a physical space or region).
(ii) Because it’s in the murky depths, it’s hard for her to manipulate it physically.
(iii) Because hard-to-manipulate-physically has a correspondence with hard-to-manipulate-mentally, I can conclude that Sheila finds the idea (viewed as a mental object) hard to manipulate mentally.
(iv) So, what Sheila meant was that she has an idea which she finds it hard (for some reason) to manipulate mentally.

Correspondences (or “mappings”) such as the one between “hard-to-manipulate-mentally” and “hard-to-manipulate-physically” are seen by conceptual metaphor theorists (see, e.g., Lakoff and Johnson 1999) as forming part of conceptual metaphors (or, as we prefer to call them, ‘metaphorical views’). These are culturally-shared and deeply ingrained correspondences between physical (often bodily) experiences and our more abstract understanding of the world. A well-known conceptual metaphor is, for example, “ANGER IS HEAT” – which shows up in a multitude of expressions such as ‘Fred boiled over with rage’. In the example above, two conceptual metaphors are arguably employed – “MIND AS PHYSICAL SPACE” and “IDEAS AS PHYSICAL OBJECTS”. “MIND AS PHYSICAL SPACE”, for example, can be thought to contain a number of “mappings” from objects and properties (etc.) in the physical domain to objects and properties (etc.) in the mental domain. For example, there may well be a mapping, as

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“In the murky depths of my mind”:
Towards a Situation-Based Discourse Semantics for Metaphor

Sheila Glasbey & John Barnden
School of Computer Science
University of Birmingham, UK
{S.R.Glasbey, J.A.Barnden}@cs.bham.ac.uk
explained above, between ability to physically manipulate a physical object and ability to mentally manipulate a mental object. But there is not necessarily a mapping between the “murky depths” of my mind viewed as a physical space and some abstract aspect of my mind or mental functioning. The way you reached the interpretation of (1) was less direct – you did some reasoning in the pretence domain (or “source domain” of the metaphor) about physical objects, and then used the (pretence-to-reality) mapping from hard-to-manipulate-physically to hard-to-manipulate mentally, in order to reach your conclusion that Sheila finds the idea hard to manipulate mentally.

Your conclusion could arguably be seen as the propositional content of my utterance of (1) – although that raises a number of difficult questions (which we will attempt to answer).

It should be noted, incidentally, that we are not claiming that everyone possesses exactly the same set of mappings, or even that, if they have them, they necessarily employ them on every appropriate occasion. All we are saying is that the set of mappings may be incomplete – and our semantics of metaphor must allow for this. It must take account of the reasoning that may need to take place in the source domain (the domain of “metaphorical pretence”) before we can map our understanding across to the target domain (that of “reality”).

The “incomplete set of mappings” problem is one that we have had to contend with in developing a computational system (called ATT-Meta) which performs reasoning with the content of metaphorical utterances (Barnden 2001). In many cases, it is simply not realistic to supply the system with a “complete set” of possible mappings for a given metaphorical view. It is impossible to delimit in advance the set of mappings that may be needed. It makes much more sense to allow the system to reason with the source domain information it is given, until it derives something which can be mapped to the target domain, as in the example above.

In attempting to give a semantics for metaphor, another problem that must be addressed is a better-known one – that of variability of interpretation. Unlike the incomplete-set-of-mappings problem, this is one which has been widely discussed in the literature (see Stern 2000 for an overview). An utterance of ‘Juliet is the sun’, for example, may have a number of different interpretations depending on the context of utterance. Davidson (1978), among others, argues that this is one of the reasons that it is not possible to give a semantics for metaphor, which must instead be seen as a matter of pragmatics or “use”. Many have agreed with him, but like Stern and some others, we take issue with this view. We will show that adopting a situation semantics approach to meaning allows us to include metaphorical interpretation in a way that overcomes both of the problems discussed above, and a number of others to be explained in the talk.

Barwise and Perry (1983) characterised meaning as a relation between an utterance situation (the situation supporting facts about the utterance and its discourse context) and a described situation (which we can think of as the propositional content of the utterance). While this notion of meaning is rich in insights it is also, as it stands, incomplete. In the early eighties it became clear (through the work of Hans Kamp, Irene Heim and many others) that in order to interpret discourse we need some form of dynamic semantics – the updating effect of an utterance on the semantic representation of the discourse up to that point must be considered.

So (how) can we fit metaphor into this conception of meaning? Davidson (and others) have argued that metaphorical utterances do not have propositional content – or, rather, that their propositional content is simply that of the literal interpretation. According to Davidson, metaphorical utterances constitute an imaginative use of language which may have the (non-propositional) effect of making us, for example, perceive some likeness between the source and the target. Stern (2000) contests this, arguing that it is possible to characterise the propositional content of a metaphorical utterance. He argues that the variability-of-interpretation problem can be solved if we adopt Kaplan’s (1989) notion of meaning as “character” (a view which is similar to Barwise and Perry’s notion of meaning and in fact partly inspired the situation semantics approach). Kaplan sees meaning/character as a function from context to content, which allows him, among other things, to account for the meaning of indexicals and demonstratives. Stern proposes the use of character to capture the context-dependence of metaphorical meaning. In other words, while a given metaphor does not (necessarily) have a fixed meaning, its meaning constitutes a set of constraints between different contexts and different propositional content. We adopt the gist of Stern’s approach, while spelling out in much more detail the precise relation between context and content that is required to give an account of metaphor which overcomes the problems discussed above.

Stern treats utterance context as a set of presuppositions – a list of features pertaining to the source domain which may potentially be predicated of the “subject”. E.g., in the case of ‘Juliet is the sun’, the list of features might include “giver of life”, “central position”, “source of energy” and so on. The initial list of “possible features” is reduced by consideration of the nature of the subject to a list of features which can be seen as sensibly applying to that subject –

\[1\] In fact, ATT-Meta employs “query-directed” reasoning in that it performs backward chaining from a “goal” corresponding to a query posed by the context of the utterance. This will be explained further in the talk, where I will also show how it can be incorporated into the proposed semantics for metaphor.
e.g. we might exclude “generates energy by nuclear fusion” from a list of features that could apply to a human Juliet. Our situation semantics view of utterance context allows us much more flexibility. We take an “utterance situation” to support a wide range of facts about the utterance – including linguistic/grammatical facts, facts about the speaker, time and place of the utterance, and so on. (We owe this notion of utterance situation to the work of Robin Cooper on situation theoretic grammars – see, for example, Cooper 1993.) Additionally, we make our semantics “dynamic” by viewing the utterance situation as supporting facts concerning the discourse so far. If we employ Cooper’s STDRT (Cooper 1993, a combination of situation theory and DRT), we can take a DRS (or the situation theoretic equivalent, a type) as being part of the utterance context.

In summary, we see the utterance situation as supporting facts about:

(a) The discourse (representation) so far.
(b) Linguistic/grammatical information about the utterance.
(c) Contextual information about the utterance (such as speaker, utterance time, utterance place).
(d) The current query “in focus”.
(e) Any metaphorical view(s) currently “in play”.

Space does not allow it here, but in the talk we will explain each of these in more detail, and present a detailed model of their interaction – the output of which is the propositional content of the utterance, in the form of an updated DRS for the discourse. In particular, we will show how (d), the current query in focus, interacts with (e), the metaphorical view, to allow a “chain” of source-domain reasoning of the kind described in the example above. Our semantics thereby covers those cases where there is no “direct equivalent” or “direct translation” from the pretence domain to the domain of reality.

In our model, which can be seen as a tentative model for metaphorical processing, we in fact employ three distinct “meaning relations” which combine information at various stages of processing. Although necessarily more complex because of discourse and other considerations, we can nevertheless still see the model as embodying Barwise and Perry’s inspirational view of meaning as a relation between an utterance situation and a described situation. We hope to have shown that the Barwise and Perry notion can comfortably be extended to include utterances which have metaphorical interpretations (often more than one of them) – including those where deriving the interpretation involves chains of reasoning which are relatively complex. It is hoped that our work will help pave the way towards a precisely specified dynamic discourse semantics for metaphorical (as well as non-metaphorical) interpretation.

References


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2 Stern, along with many other metaphor theorists, focuses almost exclusively on copular metaphors. The ATT-Meta approach attempts to broaden this to include a much wider range of syntactic constructions including, for example, verbal metaphors.

3 We make no claims that this is how humans “actually do it” – we hope simply provide a processing model whereby someone or something “might possibly do it”.