

The Metaphorics of Literary Reading

Peter Stockwell

1.0 Introduction

Over thirty years ago, Christine Brooke-Rose (1958), began her book on metaphor by observing that most studies had concentrated on the 'idea-content' rather than the surface expression of metaphors. The situation today has altered only in the sheer volume of the imbalance, and Brooke-Rose's (1958) work remains the most comprehensive treatment of the range of possible surface realizations of metaphor reflecting the New Critical concern with 'the words themselves'. However, in this paper, a procedural perspective replaces such a strictly formalist treatment, looking at how these forms are processed in reading. This approach in itself renders less distinct the line between a formalist and a conceptual treatment.

The design of the paper reflects these concerns. The discussion in the next section of surface realizations of metaphors leads into a structural delineation of metaphoric levels. This is then given a procedural dimension (in 4.2), with a cline of processing difficulty suggested alongside the relative formal complexity of metaphors.

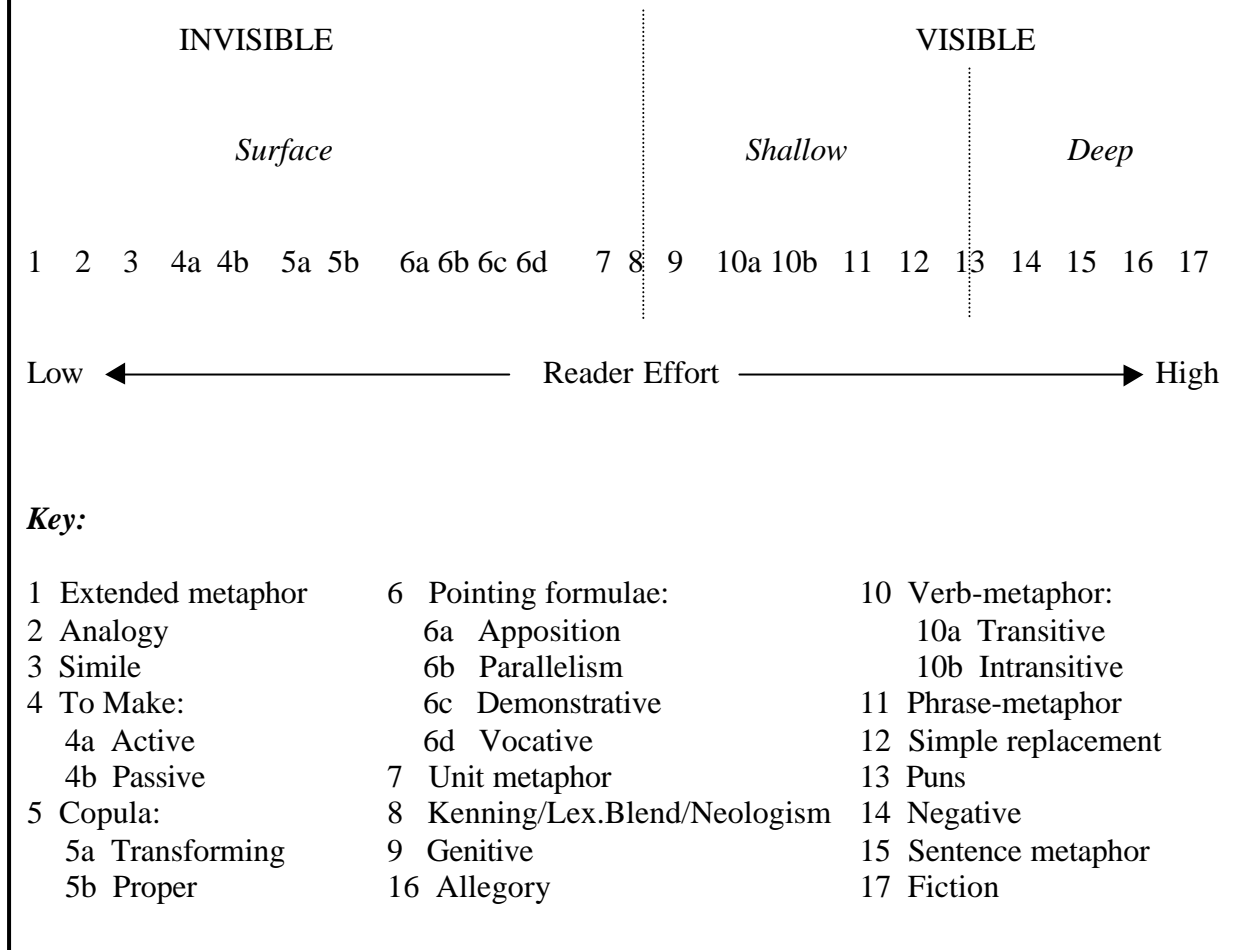
2.1.0 Structural Levels of Metaphor Realization

The scheme proposed in this section is a more detailed working of part of Stockwell (1991b). The new complete model is represented in Fig. 1 on the next page.

The basic suggestion is that the degree of difficulty experienced by the reader increases from left to right along the scale, all other things being equal. The complications arising when all other things are *not* equal are addressed in 2.2 below. Other complications of this basic representation are discussed in the sub-sections that follow. **Surface** metaphors (in 2.1.1) are those in which the mapped domains are represented directly by linguistic tokens, and are thus **visible** on the text. **Shallow** (2.1.2) and **deep** (2.1.3) metaphors require inferencing to access the metaphoric domains, and can thus be termed **invisible** metaphors.

The illustrative examples are all taken from science fiction texts (Ballard 1983; Bradbury 1976; Brunner 1988; Dick 1972; Farmer 1974; Lessing 1981a, 1981b; Shute 1966; Wells 1953, 1975; and Zamyatin 1972). These eleven books were selected completely at random from my collection, and pages opened also at random to find examples of metaphor. An appropriate example could usually be discovered within two pages of the randomly opened page. Thus, only this latter stage can be considered theory-driven (in terms of selecting data to illustrate the cline model). It does not therefore claim to be an exhaustive survey of the distribution of metaphoric forms in science fiction; such a survey must wait for a corpora-reading computer program of enormous memory which must also be capable of identifying every realization of a metaphoric proposition. Considering the notorious difficulties of metaphor definition, such a survey awaits considerable advances in both discourse theory and technology. The following discussion at least provides a working model, and an intuitive estimate of the distribution of forms.

Fig. 1 The Cline of Metaphoric Forms



2.1.1 Surface Metaphor Realizations

The form in which a metaphor is expressed can place a different emphasis on the various internal structural characteristics between the mapped domains of the metaphor (see Gentner 1982). The form, in other words, provides markers by which the reader can foreground particular mappings as being especially relevant. In Stockwell (1991b), the underlying metaphoric mapping BRAIN IS CITY was examined in two possible surface realizations. Minimally, the proposition can be expressed as a **modifier + headword** metaphor in the form, 'urban brain'. Maximally, the same proposition can be expressed as an **extended metaphor**. Sagan (1981:279) uses 367 words to explain the structure of the brain as the history of New York City.

The two realizations of this underlying mapping foreground different concerns. Although the meanings of the two utterances are divergent, the underlying metaphorical proposition BRAIN IS CITY remains the same. The minimal form is a **unit metaphor**, and a cline is proposed according to which such forms require more processing effort than extended forms where the mapped relations are explicitly given. (The cline was developed by giving a reception orientation to the notion of relative risks taken by writers with 'dead' and 'creative' metaphors (Nair, Carter and Toolan 1988)).

This view asserts that the style in which a metaphoric mapping is realized affects the processing effort (and consequently the sense of difficulty or obscurity) required of the reader. Unit metaphors are harder to process because there are minimal cues to activate a resolving schema, and more gaps have to be filled by inferencing.

The most visible and easily accessible metaphor realizations are extended metaphors, explicit **analogies**, straight explanatory **comparisons**, and **similes**. The example from Sagan (1981) referred to above is a long extended metaphor which, after 348 words, changes into explicit comparison:

This use and restructuring of previous systems for new purposes is very much like the pattern of biological evolution.

(Sagan 1981:279).

The function of Sagan's book is clearly explanatory, and expository analogies are common in pedagogic contexts.

Early 'pulp' science fiction shares this pedagogic function. Hugo Gernsback's novel *Ralph 124C 41+: A Romance of the Year 2660* was first serialized in his scientific journal *Modern Electrics* in 1911-12, out of which *Amazing Stories* derived in 1926. Many of the early stories reflect this dual orientation, with passages of scientific explanation through analogy inserted, often clumsily and with no regard for consistency of register, into the adventure narrative.

This explanatory concern persists, though with more subtlety, into later science fiction. However, extended metaphors also have evocational effects, as evidenced in the work of Ray Bradbury here, with obvious biblical connotations:

Perhaps the bombs were there, and the jets, ten miles, five miles, one mile up, for the merest instant, like grain thrown over the heavens by a great sowing hand, and the bombs drifting with dreadful swiftness... as quick as the whisper of a scythe the war was finished.

(Bradbury 1976:151).

As will be illustrated, extended metaphors such as this are composed of elements appearing further along the cline. Similes, phrase-metaphor, genitive forms, and simple replacement (all discussed below) accumulate into the extended metaphor here. Generally speaking, the cline operates because the more information that is given explicitly by the text, the less effort the reader has to make to resolve the meaning of the 'deviant sentence' by finding an appropriate domain for mapping.

Clearly, this passage is also an analogy in the explicitness of its comparison. H.G. Wells uses a shorter analogy to rationalize the working of a time machine:

'You know how on a flat surface, which has only two dimensions, we can represent a figure of a three-dimensional solid, and similarly they think that by models of three dimensions they could represent one of four'.

(Wells 1953:9).

It is noticeable that these examples are all in the form of direct speech. This direct explanation to the reader is characteristic of early science fiction.

It is important also to notice that the above examples are classified here relative to each other on the cline. As the following discussion moves through simile to metaphors in the form of the **copula**, it becomes apparent that the distinction between simile ('A is like B') and metaphor proper ('A is B') is syntactic rather than semantic. I suggest that an underlying proposition of the domain mapping is common to both surface forms. In this sense, the following include metaphoric examples in the form of similes:

The bar... was like the stern castle of a ceremonial galleon... while the divided central stairway was a bad film set of Versailles.

(Ballard 1983:93).

The olive-green light... filled the lake..., drifting over the surface like vapour off a vat. A few moments earlier the water had seemed cool and inviting, but now had become a closed world, the barrier of the surface like a plane between two dimensions... Even the men swimming below the surface... turned into gleaming chimeras, like exploding pulses of ideation in a neuronc jungle.

(Ballard 1983:101).

He could see the helicopters falling, falling, like the first flakes of snow... the helicopters fluttering like torn bits of paper in the sky... out of the sky, fluttering, came the helicopter like a grotesque flower.

(Bradbury 1976:125 and 129).

The last example seems to suggest that similes are more amenable to coherent mixing than copula metaphors. Perhaps the relatively smaller effort involved in interpreting similes is matched by a smaller degree of reader-commitment to the mapping, such that the weakly asserted mapping can be abandoned and replaced without a serious challenge to a coherent knowledge structure. The difference between simile and copula metaphor thus lies in their relative strength rather than in a qualitative distinction.

Brooke-Rose (1958:24) includes verbs of appearance and transformation (e.g. 'to seem', 'to become') as 'more timid or cautious forms' of copula metaphor. Although she regards simile as different in kind from metaphor, on the grounds that it does 'not present any syntactic problems' (Brooke-Rose 1958:14), within my model it can be seen as a weaker, more 'timid' form than verbs such as 'to seem' (a near-synonym for 'is like').

From the corpus of fifteen poets examined in her book, Brooke-Rose (1958:105) finds that the copula form is almost the least frequently used, and she speculates that this is because it is the most obvious with both terms present (A is B), it sounds didactic and authoritative, is gratuitous with banal metaphors, and it allows of paradoxes. These disadvantages for the poetry Brooke-Rose discusses are the positive foundations of science fiction, and so it is not surprising that examples of copula forms were very easy to find because of their frequency in my eleven texts. Of the copula forms, the 'timid' forms require less reader-effort for the same reasons as similes given above. Therefore, all of the following examples would be placed to the left of 'pure' copula forms on the cline:

Had she then become earth? A clod?

(Lessing 1981b:233).

It was as if some invisible jet impinged upon them and flashed into white flame. It was as if each man were suddenly and momentarily turned to fire.

(Wells 1975:29).

Such a metamorphosis of the entities referred to is often unavoidable in science fiction, which attempts to describe events governed by different or unfamiliar physical laws.

‘Pure’ copula forms, such as the following, seem to be very common in science fiction texts, contributing to the quality of ‘cognitive estrangement’ (Suvin 1979:4) that is the science fictional aspect of literary defamiliarization:

‘My God, I am a dead man!’

(Farmer 1974:5).

It may be that I am no longer a phagocyte calmly and in a businesslike way devouring microbes (with blue-veined temples and freckle-strewn faces): it may be that I am a microbe and, again, it may be that there is in our midst a thousand such microbes by now, still pretending to be phagocytes, as I am pretending to be one.

(Zamyatin 1972:130).

The sentence from Farmer (1974) will probably be read as a conventional (literally and figuratively ‘dead’) metaphor at first, but the succeeding text of the novel reveals that the character is indeed literally dead and existing in the imaginary Riverworld. ‘I am a microbe’ can only be resolved as a coherent metaphor by seeing it in context as characterization of the speaker, named D-503 (see also Stockwell 1991b).

In connecting simile forms to the copula, I have missed out the intervening category along the continuum which is metaphor in the form of the verb ‘**to make**’ (Brooke-Rose 1958:132-45). I expected to find many examples of this form in science fiction, since

it states the actual process of changing the proper term into metaphor, as well as the agent who performs or causes the change. It is like a visible fairy turning the pumpkin into a coach before our eyes, instead of the poet telling us that the pumpkin is a coach.

(Brooke-Rose 1958:132).

Such explicitness would accord well with the rational system which most science fiction texts rely on to explain their imaginary world. However, I could find no examples of this form, even after a considerable search of my eleven books. Perhaps, as with the over-explanatory use of analogy, science fiction has become too sophisticated for such obvious devices.

Next along the cline from the copula are what Brooke-Rose (1958:24) calls **pointing formulae**. There are four main types of this textual device: **apposition**, **parallelism**, **demonstrative** and the **vocative** (Brooke-Rose 1958:68). They all rely on some sort of co-reference by the metaphoric term (B) pointing back to the antecedent proper term (A). In the cases of the first three of the pointing formulae, the antecedent is visible on the surface of the text; with the vocative, the antecedent proper term ‘is clear in the sense that the vocative must

be obviously addressed to someone, usually the subject of the poem or passage' (Brooke-Rose 1958:101). For this reason, the vocative form of metaphor is placed further to the right on the cline.

The following is an example of appositional metaphor:

So he [A] left the lagoon and entered the jungle again, within a few days was completely lost, following the lagoons southward through the increasing rain and heat, attacked by alligators and giant bats, a second Adam [B] searching for the forgotten paradises of the reborn sun.

(Ballard 1983:175).

The antecedent here is 'he'. Though both domains (A and B) of the metaphor are thus visible on the surface of the text, there is a greater degree of effort required of the reader in perceiving co-reference than with the direct copula.

Parallelism differs from this in that the co-reference of A and B is indicated by a close repetition of syntactic structure, sometimes extending to more than one metaphorical term (C, D, E...). Clearly, the difference is one of degree rather than kind. Because of the variation in the demonstrative expression, this could almost be classified as apposition:

... those unpleasant creatures [A] from below, these whitened Lemurs [B], this new vermin [C] that had replaced the old, might be more abundant.

(Wells 1953:59).

Obviously, there is a demonstrative component in the indication of co-reference here as well. Such difficulty of classifying actual examples should be apparent from the following demonstrative:

And as I looked at this wide expanse of houses and factories and churches [A], silent and abandoned... I thought of... the innumerable hosts of lives that had gone to build this human reef [B].

(Wells 1975:181).

Within the pointing formulae, then, the sequence along the cline is from parallelism, to apposition, to demonstrative forms, in increasing order of effort required. The examples given above illustrate that the identification of the two mapped metaphoric domains is most evident with parallelism. Apposition is very similar, but requires the reader to infer the co-reference between proper term and metaphoric term from syntactic juxtaposition rather than overt, lexically realized connectors. The demonstrative form can be seen as metaphor with an antecedent realization that is textually close. Requiring more reader-effort would be a metaphor with an antecedent realization that is contextual rather than explicitly given in the text. This is the vocative (Brooke-Rose 1958:99-104).

The vocative is rare in prose texts, and I could only think of one example from science fiction. The short story 'The Night' (Bradbury 1975:154-62; see also Stockwell 1991a), begins:

You are a child in a small town. You are, to be exact, eight years old, and it is growing late at night.

(Bradbury 1975:154).

The reader here is the contextually present proper term (A), with ‘You’ and ‘a child’ as metaphoric terms (B) given in the text. Clearly, though, this type of formulation is beginning to move rightwards along the cline towards the textual invisibility of the proper term.

Just to the left of the border between visible and invisible metaphors are unit metaphors (**modifier + headword**). Wells’ (1975:181) ‘human reef’ above contains a unit metaphor of this prototypical form. The following (underlined) are other examples from science fiction:

She hurried out through the dim, echoing caverns of the dead aircraft carrier.

(Shute 1966:265).

The flapping pigeon-winged books died on the porch and lawn of the house.

(Bradbury 1976:11).

These examples show variations on the prototypical form, with multiple modifiers collocated with the headword. They are near the borders of visibility because one of the terms is not given on the surface of the text fully. For example, the first metaphor (Shute 1966:265) has the underlying proposition AIRCRAFT CARRIER IS AN ANIMATE CREATURE; the surface form cues the metaphor by the collocational clash of ‘dead’ and ‘aircraft carrier’, but the mapping between domains must be made by inference from this surface linguistic stimulus.

Kennings and lexical blends can be seen as even more minimal activations of an underlying metaphoric mapping. Brooke-Rose (1958:42n and 149) observes the example from AngloSaxon of ‘sea-stallion’, meaning a ship.

Science fiction texts are full of such **neologisms**, providing coinages for technology not yet invented, relationships that do not yet exist, or events that have not yet occurred. For example, Doris Lessing (1981b) differentiates ‘Gene-Father’ and ‘Mind-Father’ in a society with different patriarchal roles from our own. John Brunner (1988) has ‘threevee’ for holographic television, and ‘veephone’. These neologisms and lexical blends have a metaphoric foundation.

Such ubiquitous forms in science fiction have even subsequently provided coinages that have passed into the language: ‘Star Wars’ (Lucas 1977) for the US Strategic Defence Initiative; ‘robot’, from Czech ‘worker’ via a 1921 play by Karel Capek; and, Bulwer-Lytton’s ‘vril’ in 1871, an energyrich substance consumed by a subterranean race, immortalized by an astute Victorian beverage company as ‘Bovril’.

Kennings and neologisms are the minimally visible forms of metaphor. Neologisms can be placed on either side of the boundary, depending on whether there are any recognisable morphemes in the lexeme. Bulwer-Lytton’s ‘vril’ is a brand-new neologism that is not only an unfamiliar morpheme but also does not even resemble typical English consonant clusters. Such forms can be said to be invisible, and require a great deal of effort to resolve. They properly belong in the next section.

2.1.2 Shallow Metaphor Realization

Both shallow and deep metaphors are invisible, meaning that one of the metaphoric domains to be mapped has no explicit surface linguistic token, and the metaphor therefore has to be recognised and resolved by inference from the context. The difference between shallow and deep metaphors is dependent on whether the potentially resolving context is immediately available in the co-text, or whether it is inferrable only by recourse to the reader's world knowledge and literary competence. On the cline of metaphoric forms (Fig. 1), the former are placed to the left of the latter, indicating that less effort is involved in resolving shallow forms than deep forms.

On the leftward boundary are what Brooke-Rose (1958:146205) calls **genitive** forms of metaphor. However, Brooke-Rose (1958:24) also uses the term loosely and confusingly 'in the very wide sense of provenance from'. This can involve not only the possessive preposition 'of', but also most other prepositions as well as possessive relationships carried by the semantic meaning of the linguistic token.

The reader's skills of inference therefore become more important with invisible metaphor. Brooke-Rose (1958:146) suggests the prototypical form is 'A = the B of C', in which A (the proper term) is not mentioned explicitly at all. Often, one of the reasons for this is that the language lacks a literal term for the proper term, and a metaphor is therefore necessary to 'plug' the linguistic gap that has opened up because of the need to express a new concept.

This need to express previously unlexicalized concepts is obviously central to the speculative nature of science fiction, and is apparent in the following example from H.G. Wells:

...that luxurious after-dinner atmosphere, when thought runs gracefully free of the trammels [B] of precision [C].

(Wells 1953:7).

It is important to notice that the final term (C) does not remain literal in this context. 'Trammels' (literally, an entangling net) maps the attributes of a fisherman onto the lexical domain of 'precision'. Again, the proper term (A) is difficult to express literally. Phrases like 'logical constraints' are merely variations on the given metaphor. The proper term is so abstract that it requires a metaphor.

Brooke-Rose (1958:147) suggests that genitive forms are very close to **verb-metaphors**, in that nouns are modified indirectly as above. She goes on to say that a verb used metaphorically does not replace another action, but implicitly changes the noun with which it is collocated. This allows of metaphorical ambiguity (Brooke-Rose 1958:212), and indeed it is a general feature of the cline proposed in this paper that the potential for ambiguity and multiple interpretation increases to the right, as the reader involvement (and, thus, idiosyncrasy) with the deeper metaphors increases.

It is also observed that noun-metaphors map only those attributes that are relevant, while leaving behind those others that are not (here I am glossing Brooke-Rose's (1958:208-9) comments in my own terms). Whereas nouns are thus a complex of decomposable

attributes, verbs cannot be similarly decomposed. Their meaning depends on the noun with which they are collocated. This can be illustrated most clearly by examples of intransitive verb-metaphors:

The wind died.

(Bradbury 1976:155).

The silence, all at once, penetrated.

(Dick 1972:154).

In him his mind, his hopes, drowned.

(Dick 1972:159).

The verbs here implicitly change the meanings of the nouns in the following ways: wind becomes capable of animacy; silence is made substantial and piercing; mind and hopes are made animate and water is invoked. The underlying mapping of the first example is WIND IS A PERSON; clearly the proper term is invisible and has to be inferred, using the linguistic knowledge of the usual collocations of the verb 'die'.

The facility English has for sustaining such metaphors allows normally intransitive verbs to be used transitively as well. This 'deviation' in usage can also be seen as metaphorical in itself:

As Isidore knocked on the apartment door the television died immediately into nonbeing. It had not merely become silent; it had stopped existing, scared into its grave by his knock.

(Dick 1972:50).

In this case, the metaphor in the first sentence is reinforced by the reassertion of the mapping of animacy in the verb-metaphor 'scared' and in the associated noun-metaphor 'grave'.

Transitive verbs used metaphorically are marginally easier to process since, simply in giving two or more nouns, they provide more information and assist access to the perception of a resolving schema for the metaphoric mapping:

After even some hundreds of years, let alone thousands, we have been fused, baked out, crystallized, into forms as different as snowflakes are to each other.

(Lessing 1981a:17).

Her lips dripped venom at the name.

(Dick 1972:118).

The first of these examples would be placed further to the right on the cline than the latter in that the former is in passive form. Not only does the nature of the mapping have to be processed, but also the agent of the passive construction has to be re-inserted (the thing that bakes in the first example). Verb-metaphors in passive form can be said to be more invisible than those in active form, by virtue of this fact.

Next to the right of the cline are what Brooke-Rose (1958:258-9) calls **phrase-metaphors**. These are whole phrases which replace other whole phrases, and so act in the

same way as the simple replacement of noun-metaphors (outlined immediately below). Again, the proper term is usually invisible, and often difficult to express in a literal term:

We were all stumbling about in a thick dark, a thick ugly hot darkness, full of enemies and dangers, we were blind in a heavy hot weight of suspicion and doubt and fear.

(Lessing 1981a:447).

The two metaphors of ‘darkness’ and ‘weight’ here seem to map with the same proper term, which would perhaps be a phrase such as ‘a state of confusion and anguish’. However, this phrasal proper term has never previously received a surface linguistic expression in the novel; instead it is inferred from the previous few hundred pages of narrative.

The final type of metaphoric form in the shallow part of the cline are those that might, at first, appear the most simple and prototypical forms of metaphor realization. BrookeRose calls these **simple replacement** metaphors:

The proper term is replaced altogether by the metaphor, without being mentioned at all. The metaphor is assumed to be clear from the context or from the reader’s intelligence.

(Brooke-Rose 1958:24).

This definition characterizes simple replacement forms as being invisible and requiring reader-effort to perceive the mapping.

In the following example, the necessary contextual information needed to decode the metaphor (or even, in some cases, perceive it at all) is provided in square brackets, and the metaphor word itself is labelled [B]:

[Montag has hidden books [A], which are illegal, in his house, against the wishes of his wife.] Some were missing and he knew that she had started on her own slow process of dispersing the dynamite [B] in her house, stick by stick.

(Bradbury 1976:101).

The information, in square brackets, necessary to decode the replacement metaphor here derives from the previous chapter. It can be read literally in the sentence (dynamite can be dispersed around a house), but the previous context makes this reading unlikely in not mentioning dynamite at all. There is thus an inter-sentential semantic collocational clash that cues the reader towards a metaphoric interpretation. When such cues become matters of extra-textual knowledge, then the metaphor can be said to be deep.

2.1.3 Deep Metaphor Realization

Deep metaphoric forms do not, on the surface, look like metaphors at all. They can be read perfectly literally, such as one of the meanings of a pun, and make satisfactory sense on that interpretation. The metaphoric interpretation is often motivated by the reader’s desire to find the relevance (the ‘point’) of the narrative. So, for example, metaphoric sentences in the **negative, proverbs, allegories** and parables are all included as deep forms of metaphor. These deep forms require the most effort of the reader, who has first to notice that there is a

possible metaphoric interpretation of the literal sentence, before identifying the mapping and resolving the relevance of which attributes are mapped.

Puns are polysemic words which, when in context, display a most appropriate sense and also one or more other senses (often humorous or ironic). The most appropriate sense in context can be seen as the literal interpretation, and the other sense(s) as the metaphoric interpretation(s) of the sentence (puns that are not perceived are therefore not metaphors, because not read as such). Brunner (1988) is full of such puns: ‘The Basic Straining Manual’; ‘Fleshback Sequence’; and ‘Extremely Cross Section’. The interpretation of these puns usually depends on reading the content of the succeeding passage, and inferring possible senses from it.

One of the main problems for a linguistic theory of metaphor is that **negative** forms of metaphor are not recognised as ‘deviant’ by the theory. John Donne’s ‘No man is an island’ is literally true, and yet most people would acknowledge that it is amenable to a metaphoric interpretation. On the cline under discussion here, negative metaphoric forms are examples of deep invisible metaphors. They can be read literally, but in the context of a novel, the reader may often find this interpretation unsatisfactory. Negatively formed metaphors (of which I could find no examples in my science fiction texts) can only be seen to have relevance (‘a point’) if the literal reading is mapped onto a metaphorical interpretation.

The remaining types of metaphoric forms to be mentioned in this section are deep forms proper, in that there is no suggestion of a surface linguistic representation of the proper term. For example, the following sentence has a perfectly literal interpretation in isolation: ‘He strode in a swarm of fireflies’. However, this reading would probably not be satisfactory to most readers in context:

[With a kerosene hose in his hands] he flicked the igniter and the house jumped up in a gorging fire that burned the evening sky red and yellow and black. He strode in a swarm of fireflies.

(Bradbury:1976:11).

In context, the sentence refers metaphorically to the sparks of the fire.

When such ‘non-deviant’ sentences seem familiar to the reader, then the connection of the sentence to the previous text is inferred by encyclopedic knowledge. This is the case with proverbial sentences:

‘Coming events cast their shadows before’.

(Lessing 1981a:288).

Indeed, most generic sentences assume this connection with extra-textual knowledge. If the entire narrative consists of such forms, then it can be said to be an allegory. Note that it is readings and not texts which are allegorical from this perspective. The mapping operation in cases of allegory is then between whole texts, and the reader-effort required is correspondingly high. So, for example, Bradbury’s (1976) *Fahrenheit 451* can be interpreted, not as a literal story about a future society in which all books are banned, but as an allegory on the repression of Nazism (the interpretation made by Francois Truffaut (1966) in his film version of the book).

Allegorical reading is only exceeded in difficulty by texts which are not immediately amenable to a clear mapping. For example, Doris Lessing's (1981a) *Shikasta* is felt to 'be about' (i.e. map onto) the state of our world, and the sequel (Lessing 1981b) to be about current male/female relationships. However, the growing volume of divergent critical studies (see Kaplan and Rose 1988) illustrates how different readers can work hard to produce different interpretations from the same surface linguistic texts. The wilful production of new interpretations is the most effortful mapping operation of all, since it involves denying the validity of established mappings in order to generate another mapped domain.

Since the cline represents the variety of forms of metaphor, it should be possible to express a single metaphorical proposition in every linguistic realization. The table below attempts to do this for the BRAIN IS CITY metaphor with which this paper began. It gives a constructed example in increasing order of reader-effort (left to right on the cline).

Extended metaphor: [As Sagan (1981:279).]

Analogy: Just as a city has a communication system, so does the brain.

Simile: The brain is like a city.

To Make (Active): The popular science writer makes the brain into a city.

To Make (Passive): The brain is made into a city.

Copula (Transforming): The brain gradually seemed to become a city.

Copula (Proper): The brain is a city.

Pointing Formulae:

Apposition: The brain, an incredibly complex city, has its cells and messengers.

Parallelism: Under the microscope, there was a brain, a city, a convoluted and crowded urban landscape.

Demonstrative: The brain, that little metropolis, buzzed on in its affairs.

Vocative: Urban bustle, with your transports and transactions, how do you read this with all that city-buzz circling in your head?

Unit Metaphor: The urban brain.

Kenning/Lexical blend/Neologism: Craniopolis.

Genitive: The city of his skull.

Verb-metaphor:

Transitive: The city imagined the future.

Intransitive: The city slept.

Phrase-metaphor: Thinking it out, the city decided to extend into the desert.

Simple Replacement: I live in the big brain, behind the radioeyes.

Puns: Craning up the mind-spires of the buildings, the workers left their cells.

Negative: I live very much inside my head, but it's not a city.

Sentence metaphor/Proverb: [Paris is the brain of France]. The brain governs the limbs.

Allegory: Deep in the brain-stem, the nervous controller heard of riots in the cerebral cortex, and sent out his messages along the limbic system to order relaxing hormones to be distributed. Thus major damage was avoided.

Fiction: [A story involving elements of the above allegory, in much more specific detail, and then read as being personally relevant by someone living in a city at a time of rioting and social unrest].

The cline is of course a convenient idealization of the whole question. Below, this idealization is located in its actual conditions of use, and the picture drawn so far is very much more complicated than the diagram in Fig. 1 suggests.

2.2.0 Processing the Structural Realizations

When the ideally represented forms are actualized in a read text, there are numerous factors that have the effect of ‘pushing’ the actualization of the form either leftwards or rightwards along the cline. That is to say, there are a variety of conditions under which a given metaphoric form can be easier to process or more difficult to process, than would be the case if all other things were equal. Such conditions are associated with the state of the text and with the state of the reader.

2.2.1 The Condition of the Text

With any of the examples of invisible forms of metaphor, the degree of reader-effort required is lessened (pushed leftwards along the cline) if the proper term is actually mentioned. Any invisible metaphor can thus be made visible, but the resulting effect can sometimes seem over-explicit and heavy-handed. For example, if an allegory or fiction ends with an explicit moral or authorial interpretation, then this itself constitutes the proper term of the overall mapping. Not only does it turn the allegory into a visible extended metaphor (thus pushing the actualization from extreme right to extreme left), it also severely limits the potential for multiple interpretation, since the assertion of *authority* presents itself as the sole legitimate mapping. This textual strategy serves a useful pedagogic function (typical of parables and their exegesis), but would perhaps seem too didactic for modern literary conventions. It is possibly for this reason that such formulae are often associated with children’s fiction such as fables, fairy-tales, and superhero cartoon texts.

The degree of readerly effort required also depends on the textual distance involved in resolution. Obviously, an element that is fresh in the reader’s active memory is more immediately available for processing than an element long since read and forgotten. Textual proximity is thus an important factor.

The tense in which the verbal element, associated with the metaphoric form, is expressed has an effect on the location of the metaphor on the cline as well. Verbal aspects in the past give mappings that have already been accomplished, whereas present tensed verbs instantiate mappings in progress. Present tense metaphors can be seen as the act of ‘metaphoring’ itself.

The forms represented in the cline do not necessarily occur in actual texts in their pure state or in isolation, as has been shown. Roughly speaking, the extreme forms are largely composed of the more central forms.

It is this often hierarchical accumulation of information that guides the reader towards a successful and coherent resolution of the mapping. Obviously, the more information available about a mapping, the easier it is for the reader to perceive, providing, of course, that the accumulated information forms a coherent domain. If each additional element cannot be slotted into a coherent domain, then the metaphor is pushed further and further to the right, requiring more and more reader-effort to perceive a coherent mapping. There can be two outcomes of this: the reading can be abandoned and characterized by the reader as obscure and incoherent; or the reader can thematize the incoherent use of language.

The resolution of mappings is greatly facilitated by the degree to which metaphoric forms are explicitly marked as representing metaphors. Sentence-metaphors and allegories can coherently be read literally, without recourse to metaphoric meaning at all. (In these cases, a metaphor cannot really be said to exist, since the reader in question is not aware of it. To reiterate, a metaphor is a way of reading and not a textual feature, though this paper illustrates the forms that metaphors can take given that they have been perceived). Visible metaphors generally present few problems of recognition, in that some sort of semantic collocational clash is involved, which immediately cues the reader into a search for resolution.

Clearly, this last complicating factor is a matter both of the condition of the text and of the reader. In the next section, factors associated with the latter are considered.

2.2.2 The Condition of the Reader

The largest factor affecting the actual location of a given metaphoric form on the cline is the degree of the reader's familiarity with the base domain (as predicted by Gentner (1982)). However, the degree of unfamiliarity of the target domain is also a factor. It is these two factors that determine whether a metaphor is illuminating or defamiliarizing. For example, a copula metaphor is given in 2.1.1 above, together with a simile:

The bar... was like the stern castle of a ceremonial galleon... while the divided central stairway was a bad film set of Versailles.

(Ballard 1983:93).

For a reader brought up in the film-rich culture of the West in the twentieth century, the base domains would probably present few problems of familiarity here. The cultural knowledge evoked is of cinema images of antique ships and the recognition that 'Versailles' means the royal palace of that town. Equally, the target domains of an ornate bar and a majestic staircase would not be unfamiliar to the same reader. The metaphor can be said to be an illuminating and explanatory one.

Such a metaphor would be to the left of the following defamiliarizing metaphor which occurs only a few pages later. Though in similar form, it would be more difficult for the same reader to process because of the unfamiliarity with the base domain:

Even the men swimming below the surface... turned into gleaming chimeras, like exploding pulses of ideation in a neuronic jungle.

(Ballard 1983:101).

Who, besides a brain-surgeon trained in radiography, would find this last base domain familiar? By contrast, the target domain (men swimming in water) is a familiar one, and so the effect of defamiliarization is all the more striking. The processing of this metaphor would possibly be pushed rightwards to the point at which the language is thematized (the novel concerns the reverse evolution of humanity into the 'archaeopsychic' past, the reptilean depths of the brain, a theme to which the above metaphor stylistically contributes).

Closely associated with the degree of reader-familiarity with the mapped domains is the degree of ease of the mapping. If, within our culturally defined conceptual system, both

base and target domains are similarly structured, then a mapping between them would present fewer processing problems than a mapping between two conceptually dissimilar domains. For example, one of the difficulties in reading Zamyatin's (1972:130) mapping of the narrator and a phagocytic microbe lies in the complete conceptual dissimilarity (within our present understanding of microbiology) of these two entities.

A further factor which eases the effort of interpretation is the reader's awareness of a cultural consensus on readings. It is, for example with allegory and fiction, more effortful to overturn an established literary critical interpretation of a text than it is to simply take up that reading and acquiesce in it.

Linked to this cultural consensus is what might be called a conceptual consensus on the way we perceive our world, that is constituted by biology and experience as well as culture (see Lakoff 1987). The identification of semantic collocational clashes depends on a particular perceptual configuration of the world and which entities in it are categorized together or not. If this configuration is seen (as in De Beaugrande 1980:111) as having merely the status of our default version of reality, then clearly what are perceived as metaphors in the language system that represents and constructs that reality might be literally true in realities perceived differently. The construction of such alternative (views of) realities is the business of science fiction.

Finally, but by no means minimally, the effort required of the reader is to some extent always dependent on the amount of energy s/he is prepared to expend in any given situation. In other words, the disposition of the reader is a factor in moving along the cline in either direction.

3 Review

The discussion of forms of metaphor in this paper can be applied to other literary text-types. The main point is not that there are features of metaphor that are exclusively peculiar to the science fiction text-type, but that science fictional texts typically illustrate a range of characteristics that differ generally from the texts of other genres. However, without a comprehensive quantitative survey of the whole genre, the following comments are necessarily intuitive.

The type and distribution of forms of metaphor seem to differ quite markedly across the history of the genre. The early science fiction of the pulps had an explanatory function that is reflected in the use of visible metaphors. In particular, there seem to be a large proportion of those forms that require the least effort of the reader: extended metaphors, analogies and similes. The pulps were typically regarded as juvenile fiction, and read mainly by teenagers and technically-minded young male adults - in other words, readers not trained in conventional literary reading. 'Pulpstyle' reflected the requirements and abilities of this readership.

By contrast, as Taylor (1990) observes, later manifestations of science fiction, and specifically the New Wave of the 1960s and after, were more concerned with the sort of literary defamiliarization and self-referentiality that was becoming popular in mainstream fiction. Forms of metaphor from texts of this period reflect this by including many invisible

metaphors, which require greater reader involvement with the text. More visible metaphors, when they occur, are often foregrounded by metalanguage.

Such general characteristics as those provided in this paper can move towards a stylistic profile of the notion of genre that has both formal and procedural aspects.

References

Ballard, J.G. (1983 [1962]), *The Drowned World*. Everyman/Dent.

Bradbury, R. (1975 [1948]) 'The Night', in *The Small Assassin*. Granada, pp.154-162.

Bradbury, R. (1976 [1954]), *Fahrenheit 451*. Granada.

Brooke-Rose, C. (1958), *A Grammar of Metaphor*. Secker & Warburg.

Brunner, J. (1988 [1975]), *The Shockwave Rider*. Methuen.

De Beaugrande, R. (1980), *Text, Discourse, and Process: Toward a Multidisciplinary Science of Texts*. Ablex Publishing.

Dick, P.K. (1972 [1968]), *Do Androids Dream of Electric Sheep?* Grafton.

Farmer, P.J. (1974 [1971]), *To Your Scattered Bodies Go*. Granada.

Gentner, D. (1982), 'Are Scientific Analogies Metaphors?', in D. Miall (ed), *Metaphor: Problems and Perspectives*. Harvester, pp.106-132.

Kaplan, C. and Rose, E.C. (eds) (1988), *Doris Lessing: The Alchemy of Survival*. Ohio University Press.

Lakoff, G. (1987), *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. University of Chicago Press.

Lessing, D. (1981a [1979]), *Shikasta*. Grafton.

Lessing, D. (1981b [1980]), *The Marriages Between Zones Three, Four, and Five*. Grafton.

Lucas, G. (director) (1977), *Star Wars*. Lucasfilms/Fox.

Nair, R.B.; Carter, R.A. and Toolan, M. (1988), 'Clines of Metaphoricity, and Creative Metaphors as Situated Risk-Taking', *Journal of Literary Semantics* 17(1):20-40.

Sagan, C. (1981), *Cosmos*. Macdonald.

Shute, N. (1966 [1957]), *On The Beach*. Pan.

Stockwell, P.J. (1991a), 'Language, Knowledge and the Stylistics of Science Fiction', in P. Shaw and P.J. Stockwell (eds), *Subjectivity and Literature From the Romantics to the Present Day: Creating the Self*. Pinter, pp.101-112.

Stockwell, P.J. (1991b), 'To Be Or Not To Be a Phagocyte: Procedures of Reading Metaphors'. Paper presented at the Poetics And Linguistics Association Conference, *Poetics, Linguistics and Society*, Amsterdam University, September 1990.

Suvin, D. (1979), *Metamorphoses of Science Fiction. On the Poetics and History of a Literary Genre*. Yale University Press.

Taylor, J.W. (1990), 'From Pulpstyle to Innerspace: The Stylistics of American New-Wave SF', *Style* 24(4):611-627.

Truffaut, F. (director) (1966), *Fahrenheit 451*. Rank/Anglo Enterprise/Vineyard.

Wells, H.G. (1953 [1895]), *The Time Machine*. Pan.

Wells, H.G. (1975 [1898]), *The War of the Worlds*. Pan.

Zamyatin, Y. (1972 [1924]), *We* (trans B.B. Guernsey). Penguin.