AGENTIVE AND CONTEXTUAL FACTORS AFFECTING METAPHORICAL COGNITION

by
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According to contemporary theories of cognition, the process of metaphorical interpretation is conceived of as a 'mapping' from a source domain to a target domain. The author of this paper believes, in contrast, that this process of mapping does not take place in a vacuum, but rather is influenced by both agentive and contextual factors. By the agentive factors of metaphorical cognition, she refers mainly to an interpreter's familiarity with a metaphor, and his/her background knowledge, while by the contextual factors, she refers chiefly to the textual context, the situational context and the cultural context of a metaphor. These factors cannot be neglected, inasmuch as they are aspects of the interpreter's process of metaphorical cognition.

1. Introduction

In contemporary study of metaphors, the concept has taken on a new interpretation. According to George Lakoff (1993:203), 'the locus of metaphor is not in language at all, but in the way we conceptualize one mental domain in terms of another'. Thus, we may take 'metaphor' as 'a cross-domain mapping in the conceptual system', inasmuch as 'everyday metaphor is characterized by a huge system of thousands of cross-domain mappings'. From this perspective, the comprehension of metaphor is defined as simply a mapping from a source domain to a target domain. However, in our daily life, this process is not simply a mapping directly from a source domain to a target domain. It is always conducted or carried on within a more complex metaphorical cognitive processing system, and, in this system, the mapping is always affected by factors other than the metaphor itself. If this is the case, what, then, are these factors? How do they exert their influence on the mapping? In the present paper, the author attempts to probe into the agentive and contextual factors which contribute to the understanding of

metaphorization, or metaphorical signification; she illustrates this by examining some Chinese metaphors.

2. Agentive factors

The end phase of linguistic thinking is the meaning which is to be conveyed by and understood in the communication process. Its starting point, however, is a feeling that occurs in a human being. In the interval between the generation of a thought and its expression in language, there is an internal medium of neurological processes. Viewed as a phenomenon, the process is a dialectical movement between the individuality of thinking and the public nature of language, between the wholeness of meaning and the particularity of symbols, and between the infinite generation of thoughts and the finite nature of the language rule system. The movement of a thought from a sensory impression or a vague wholeness to a precise linguistic form finally expressed in speech travels along an often-contradictory dialectical path. Therefore, the creativity or generation of speech cannot derive merely from grammatical rules, nor completely from meaning, but rather from the contradictory dialectical movement which occurs through the interaction of the brain, the speech centers, and the world of language.

A thought which is ultimately expressed precisely and clearly is by no means clear and precise from the very start in the agent's mind (Wang 2007). Levelt (1989:463) asserted that speech production involves several different phases, that is, conceptualizing, formulating, articulating and self-monitoring. However, this process, which is determined by the biological nature of human cognition, is not merely an absolute sequence but also a parallel one in the neural network. Therefore, linguistic production does not equal the formation of thought. The process of thinking is a neural transmission of information taking place in a person's neurological network. Neural transmission occurs when a neuron is activated, or fired, when the neuron is stimulated by pressure, heat, light, or chemical information

from other cells and when the presynaptic neurons are available in sufficient quantity to affect the postsynaptic neurons. The condition of a sufficient quantity of presynaptic neurons results from the repeated stimulation when information of various kinds is processed, which actually is an accumulative process of familiarity and experience of a certain matter.

Evidence from recent research (Rocha 1997; Pulvermüller 2002; Bar et al. 2007; Garagnani et al. 2007; Duch et al. 2008; etc.) indicates that when we process language, the mind associates the relevant neurons which represent certain concepts before it can form a definite idea. Thus, we believe that what we have called the agentive factors play a leading and decisive role in linguistic cognition compared with the contexual factors, although the latter also play a very important role. If a person does not know a certain language, does not acquire the language at a young age, does not reach a certain level of literacy, or even loses his/her language ability due, for example, to aphasia, he/she will have difficulty understanding everyday language, let alone a metaphor, even though it occurs in a relevant context. Therefore, metaphorical cognition should start from the agent – his/her familiarity with a certain metaphor, his/her age, experience, and education level, all of which contribute to the interpretation of the given metaphor.

2.1. Agent's familiarity, modes of recognition and frequency

I assume that familiarity is one of the main factors affecting metaphorical cognition. The way an agent understands a particular metaphorical expression, the frequency with which he/she receives it and his/her familiarity with it directly influence his/her way to process it in his/her brain. Dingfang Shu (2000:77) states,

> Metaphoricity is a matter of degree. Once a novel metaphor is accepted and spreads, its metaphoricity begins to decrease. As the frequency of its use increases, its metaphorical meaning starts to

> become a portion of the word meaning, but still maintains its metaphorical feature. Even if it becomes a dead metaphor, it remains an extinct volcano which may revive at any time.

The 'matter of degree' that Shu discusses refers to the degree of familiarity and the consequent social acceptance of a particular metaphor. However, the connotation of the term 'familiarity' being discussed in the present paper is the degree of familiarity of an agent with a certain metaphor. An agent's familiarity with something is relevant to his/her long-term memory and neurological mechanism; the more he/she uses a metaphor, the more familiar with it he/she will become.

Accordingly, it is generally accepted that the processing speed of a given piece of information in the brain is higher when that piece of information is familiar to the agent. According to Andrew P. Yonelinas (2002), results from cognitive, neuropsychological, and neuroimaging studies of human memory increasingly indicate that the ability to recognize elements in the surrounding environment (such as faces or places), as well as the ability to learn about and orient ourselves within that environment, is crucial to our functioning in the world. The accepted term for this ability is recognition memory performance. It actually reflects two distinct memory processes or types of memory, and these are often referred to as recollection and familiarity. To illustrate the general domains from which the empirical evidence has accumulated, Yonelinas briefly describes what he calls 'empirical disassociations' that have been used as support for the claim that recognition involves more than a single type of memory. By the term 'empirical disassociations' he means that the processes or types of memory can be disassociated. He cites four of them: First, studies of processing speed have indicated that remembering a familiar piece of information occurs faster than recalling something unfamiliar, or less familiar. Second, the analysis of the confidence with which a subject recognizes a piece of information indicates that there is a difference between recognizing a new datum and one that is familiar. Third,

different electrophysiological characteristics appear when a subject is recollecting familiar and unfamiliar pieces of information. Fourth, in the case of certain brain injuries, recollection of unfamiliar information is more severely disrupted than that of familiar information, indicating that these two processes are dependent on the operations of different regions of the brain. The overall point of Yonelinas' paper is therefore to suggest that familiarity influences recognition.

Sinéad M. Rhodes and David I. Donaldson (2007) performed another experiment in which the subjects retrieved an event from memory by means of familiarity in their associative recognition task. Their experiment also indicates that familiarity contributes to the retrieval of information. Likewise, Peng et al. (2003) found in their functional Magnetic Resonance Imaging (fMRI) study that the activations of different areas in the brain are affected both by the length of time with which a datum (a word) is presented to the subject and by the frequency (familiarity) with which a datum occurs. When the duration of presentation was longer, no significant difference in activation was found between high- and low-frequency words. Alternatively, when the duration of presentation was shorter, high frequency words evoked significantly greater activation in the bilateral fusiform gyri, cerebellum, right inferior parietal lobe, medial frontal gyrus (BA45/46/9) and the right temporal-occipital junction (BA21/37). These results suggest that the activation in these regions of the brain is modulated by experience.

In Curran's (2000) tests of recognition memory for words, subjects were required to distinguish three types of words: previously-learned words, words similar to previously-learned words but with changed forms, and new words. The results indicate that event-related brain potentials (ERPs) can be used to dissociate recollection from familiarity, which suggesting that it takes more energy to learn a new word than to recognize a known word. Curran et al. conclude that 'the FN400 ERP old/new effect (300~500 ms) varies with stimulus familiarity (new > learned = similar), but the parietal ERP old/new effect (400~800 ms) varies with recollection (learned > similar = new)'.

In other words, as previously suggested, there is an inverse ratio between the degree of familiarity of a subject with a given datum and the amount of energy required to recognize it. Curran and his colleagues' later research reports (2003, 2004, 2007) are consistent with this finding.

It can be concluded from all these findings that the processing of the unfamiliar takes more time and energy than the processing of the familiar. Therefore, the processing of the familiar is faster and easier than that of the unfamiliar. On the basis of these conclusions we draw the further conclusion that the processing of dead metaphors (familiar) should be faster than that of novel ones (unfamiliar).

2.2. Agent's background

Any human being with the faculty of language may express him-/herself in words. However, some people tend to use more metaphors in their speech than do others; some are more sensitive to metaphors than others; some can instantly interpret a metaphor while others cannot. That is partly because cognitive capabilities and intelligence levels vary from person to person. We will discuss such capabilities and levels from the following three vantage points.

2.2.1. Experience and experiential realism

From the perspective of the experiential view of cognition advanced by Lakoff and Johnson (1980, 1993), what they refer to as the agents' bodily experience plays a very important role in their cognitive development; thus, their abstract concepts stem from their bodily experience in their living environment. On the basis of their own bodily experience, persons begin to conceive a scene or compose an image in their minds. This is what psychologists call an 'image schema'; it provides a foundation for thinking and offers an approach to the

understanding of abstract conceptualization and the performance of abstract thinking. In cognitive psychology, metaphor is the act of applying the characteristics of one thing, called the source domain, to another, called the target domain. In this view, the making of a metaphor is an act of association between things that have similar characteristics.

For example, people are likely to describe an important figure with a bodily significant part or parts. The following Chinese metaphors can often be heard in our daily life: *Ta shi women de tou* 'He is our head'; *Ta de liang ge erzi jianzhi jiushi ta de zuo you bi* 'His two sons are simply equal to his arms'; *Ta shi mama de xingan baobei* 'She is her Mom's sweet heart', etc. It is from his/her own self that a person takes the first step to experience and learn the outside world. If a person has experienced some event, it means the agent has perceived it with his/her own body. In this way, it is more likely for him/her to keep it in the long-term memory because what is directly experienced makes a deeper impression on the agent than what is learned indirectly. Therefore, the more experience one has and the richer one's experience, the more capable one is of making an analogy between different experienced events and the more likely one will be to find the similarity between them; as a result, the easier it will be to understand metaphorical expressions.

2.2.2. Age

Experience is accumulated day by day, and thus the agent's age has to be taken into consideration when it comes to the comprehension of metaphors. In his study, Johnson (1991) found that the score for the understanding of metaphor increased with age and that for such understanding, effects due to language or socioeconomic status were relatively less significant than those due to age. The conceptual metaphor is the knowledge of various properties in the natural world stored in the agent's long-term memory. For instance, we may take love

as a PHYSICAL FORCE – 'I could feel the *electricity* between us', or as a PATIENT – 'This is a *sick* relationship', or as MADNESS – 'I'm crazy about her', or as MAGIC – 'She *cast her spell* over me', or as WAR – 'She *fought for* him, but his mistress *won out* '. (Lakoff and Johnson 1980:49) That is why an agent can associate a present event with one he/she experienced in the past. It is obvious that the content of one's long-term memory is relevant to one's experiences. The more experience a language user has, the more properties about the world he/she stores in his/her long-term memory and the easier it will be to put them into language.

Bonnaud et al. (2002) performed an ERP experiment in which two groups of participants (young vs. elderly) are involved in a semantic decision task, where the semantic relation is metaphorical (e.g., 'will – iron'), whereas the semantic relation is not (e.g., 'will – courage'), and a task of two conditions without any semantic link, where the two words either had a phonological relationship (as in French *destin – festin*; 'fate – feast') or else did not (as in *destin – orteil*; 'fate – toe'). The comparison between the two groups of young and elderly participants showed that older subjects made fewer errors than young subjects when they had to judge metaphorical relations. This aspect of their results is in agreement with the study of Boswell who found age differences in the interpretation of metaphors by testing subjects of differing ages who were not connected to the imaging equipment at the time the interpretations were made. There are two possible explanations for these differences: (1) Older people have a longer language experience; (2) Older participants have greater familiarity with such expressions, which could facilitate either the processing of words or the identification of the semantic relation between words (Bonnaud 2002).

2.2.3. Educational background

The understanding of a metaphor is a process of semantic connection, which requires the control of vocabulary, whereas the use of metaphor

depends upon the contents of memory. The more education an agent has received, and the higher the level of his or her education, the more skillful the agent may be in the mastery of metaphor. Furthermore, the frequency of metaphorical usage is relatively higher in some communities than in others. Some surveys indicate that experienced writers are apt to use figurative language persistently (Shu 2000:211). A recent study has found that when a major aspect of figurative language in the context of online learning is concerned, personal knowledge is involved (Delfino and Manca 2007). A person's level of education plays an important part in the correct use and accurate understanding of metaphor. As Albert N. Katz's (1996) experiments have shown, in listening to different speakers, a hearer harbors different expectations for the use of metaphors. His study offers a general view of the differing probability of speakers of different occupations using metaphors.

Number	Occupation	Probability of using metaphors
1	artist	7.00
2	teacher	7.00
3	professor	6.93
4	writer	6.87
5	poet	6.60
6	actor	6.07
7	journalist	5.93
8	lawyer	5.93
9	salesperson	5.88
10	critic	5.87
11	publicist	5.80
12	steel worker	2.57
13	truck driver	2.40

Table 1: *Probability of using metaphors in terms of occupations**

From the table, we may see that the occupations listed in Katz's table have a close relationship to education levels. The first 11 occupations belong to the class of those requiring an education level typical for brainworkers, which may explain the slight difference between these levels. The last two, by contrast, belong to the class of occupations for manual laborers requiring less education. Compared with the former group, the latter displays a significantly lower degree of probability for using metaphors. If somebody makes a survey among farmers, builders, waiters, housekeepers, or other workers with little education, he may find that such people are less likely to express themselves in metaphor, just as is the case for the steel workers and truck drivers shown in the table.

Of course, these three agentive factors: bodily experience, age, and education are interrelated with, and supplement each other to affect the agent on the interpretion of a metaphor.

3. Contextual factors

Contextual factors refer to those objective circumstances which can affect metaphorical cognition. Ortony (1993:11) pointed out that 'naturally occurring' ('pure' or 'context free') metaphors are frequently incomprehensible unless one considers the contexts in which they occur. Therefore, if we study metaphors, we have to consider their contexts. Various researchers acknowledge the role of contextual factors in the recognition and interpretation of metaphor and some argue that such factors constrain the range of possible interpretation (MacCormac 1985:185; Goodman 1976:71). Michiel Leezenberg (2001: 150) even claims that metaphorical interpretation is systematically context-dependent. However, the concept of context they have discussed has broad significance, as scholars tend to regard everything except the metaphor itself as a contextual factor. In the first part of this paper, agentive factors have been singled out for discussion; in the next

part, by contrast, the author will consider only the textual, situational, and cultural contexts of metaphor.

3.1. Textual context

A textual context can be defined as a particular arrangement of language symbols in which a metaphorical expression is set. Although some metaphors depend for their understanding less on their textual context than do others, textual context more often than not helps an agent to distinguish a metaphor from a literal expression and interpret its meaning. There do exist some metaphors which can be understood with little or no help of their context. For instance, in Mandarin Chinese, some dead metaphors can be understood in nearly any context. Most Chinese idioms fall into this category because it is customary for people to interpret them by their metaphorical meaning instead of their literal meaning.

(1) *Huangdi nver bu chou jia* 'An emperor's daughter doesn't worry about her marriage'. (One takes advantage of some external superiority instead of making an individual effort.)

(2) *Hui ku de haizi you nai he* 'The crying baby has more milk to drink'. (A subordinate gets more benefits or privileges from a superior by taking an assertive attitude or making a strong demand.)

(3) *Jian le zhima, diu le xigua* 'While you pick up the sesame seed, you lose the watermelon'. (One gets the lesser advantage at the cost of abandoning the greater. Compare: One strains at a gnat and swallows a camel.)

(4) *Luan dian yuanyang pu* 'Mismatched ducks'. (Wrong marriage arrangement. Or: Trying to bring two ill-matched sides together.)

(5) *Tian shang bu hui diao xianbing* 'Pies will not fall from the sky'. (There are no free lunches.)

(6) *Wu shi bu deng Sanbaodian* 'One never goes to a Buddhist temple for nothing'. (There is no visit without purpose.)

(7) *You yan bu shi taishan* 'One doesn't recognize Mount Tai with one's own eyes'. (Compare: 'Entertaining an angel unawares'. (Meaning: The ignorant person fails to notice an important person or event).)

(8) *Zaixiang du li neng chengchuan* 'The Prime Minister will allow people to pole a boat in his stomach'. (A person of high rank tends to forgive others for small eccentricities.)

However, the comprehension of metaphor in most cases depends on its textual context. In other words, the textual context often plays a critical role in understanding a metaphor and it helps the agent to decide whether or not a certain word or phrase is a metaphor, since identical words or phrases can be understood literally or metaphorically only due to their textual contexts. As examples, take some Chinese words or phrases with similar structure; these words and phrases present a literal meaning in some textual contexts, but a metaphorical meaning in others.

(9) A. *Guozi* ***shengxiu le*** 'The pot is **rusty**' (literal meaning).
B. *Naozi* ***shengxiu le*** 'The brain is **rusty**' (metaphorical meaning: **ineffective** or **dull from lack of use**).

(10) A. *Bingshuang* ***jiedong le*** 'The frost has **melted**' (literal meaning).
B. *Guanxi* ***jiedong le*** 'The relationship has **melted**' (metaphorical meaning: **no longer in effect**).

(11) A. *Gei baobao* ***da yufangzhen*** '**Inoculate** the baby' (literal meaning).
B. *Shijiebei sai qian gei qiumi* ***da yufangzhen*** '**Inoculate** the fans before watching the World Cup' (metaphorical meaning: **warn in advance**).

(12) A. *Haizi getou* ***airenyijie*** 'The child is **shorter than others**' (literal meaning).
B. *Nvlan bu zai* ***airenyijie*** 'The women's basketball team is no longer **shorter than others**' (metaphorical meaning: **inferior to others**).

(13) A. *Zhe tai diannao de* ***yingjian*** *bu xing* 'The computer has inferior **hardware**' (literal meaning).
B. *Zhe ge xuexiao de* ***yingjian*** *bu xing* 'The school has inferior **hardware**' (metaphorical meaning: facilities).

(14) A. *Caipan xiang weigui qiuyuan* ***liang*** *qi* ***huangpai*** 'The referee **shows the yellow card** to the offending player' (literal meaning).
B. *Xiaodian yin weifa jingying bei* ***liang huangpai*** 'The grocery is **shown the yellow card** because of its improper management' (metaphorical meaning: **warned**).

15) A. *Ta zai baopo qian* ***dianran le daohuoxian*** 'He **lit the fuse** before the demolition' (literal meaning).
B. *Ta zai taolun shi* ***dianran le daohuoxian*** 'He **lit the fuse** in the discussion' (metaphorical meaning: **introduced some controversial topic**).

(16) A. *Chuguo liuxue shenzao, ta* ***jiao le henduo xuefei*** 'He **paid a large tuition** for studying abroad' (literal meaning).
B. *Shuxi zhege hangye, ta* ***jiao le henduo xuefei*** 'He **paid a large tuition** for learning the business in this field' (metaphorical meaning: **learned at a great cost**).

In the above pairs of sentences, the boldfaced words or phrases in each pair consist of exactly the same words, but they differ in meaning on account of their different contexts. The word or phrase in sentence A of each group presents the literal meaning, while in sentence B it takes on a figurative meaning. The change in meaning is affected by the textual context. Take the word 'rusty' in 9, for example. 'Rusty' is used to describe one of the properties of a metal. But when it is used to describe 'brain', such a use appears, on the surface, to be improper, as it goes beyond its original function. However, according to Conceptual Blending Theory, proposed by Fauconnier and Turner (1998), a general cognitive operation is a process of 'blending'. In blending, structure from input mental spaces is projected on to a separate, 'blended' mental space – inputs, generic, and blended spaces. The salient feature of such networks is the construction of a blended space which develops specific emergent structure and dynamics while retaining links to the overall network. Based on the theory, the present author draws the following figure with the intention to show how an agent processes the metaphor 'The brain is rusty':

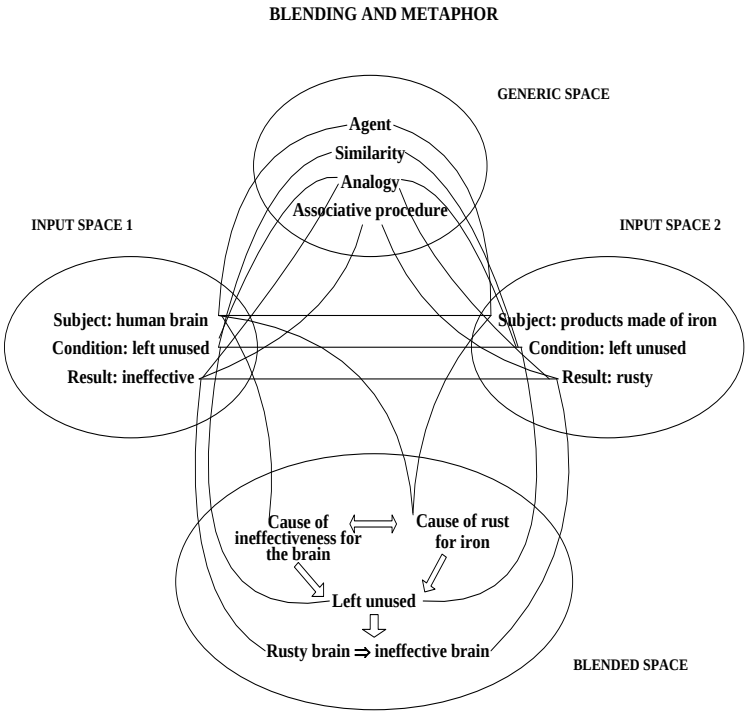

Figure 1 Net of conceptual blending of "The brain is rusty."

From the figure we may see how the similarity between 9A and 9B in cause ('left unused') as well as in structure ('The metal will be rusty if it is left unused') results in 'The brain will be ineffective if it is left unused'. Based on the similarity, the expressions are integrated in the blended space to form a new meaning of 'rusty' ⇔ 'ineffective' as far as the use of brain is concerned. As a result, we may conclude that rusty brain equals ineffective brain. Then we may interpret the metaphor 'The brain is rusty' as 'The brain is ineffective'.

In addition to helping an agent recognize a metaphor, textual contexts may help construct and interpret different metaphorical meanings. Some words or phrases occurring in different textual contexts may be interpreted with different metaphorical meanings. The following pairs of Chinese phrases and sentences provide good cases in point.

(17) A. ***Mogui*** *gongtou* 'a **devil** foreman' (metaphorical meaning: an **evil or cruel** (person)).

B. ***Mogui*** *shencai* 'a **devil** figure' (metaphorical meaning: **curvilinear, slender**).

(18) A. *Lindao qunzhong ge* ***da suanpan*** 'The manager and the workers each **calculate on an abacus** separately' (metaphorical meaning: **consider their own interests**).
B. *Gongsi kuaiji xi* ***da suanpan*** 'The company's accountant **calculates on an abacus** carefully' (metaphorical meaning: **pinches pennies**).

(19) A. *Naozi* ***duanlu*** '**short-circuits** of the brain' (metaphorical meaning: **ineffectiveness**).
B. *Qingjie* ***duanlu*** '**short-circuits** of the scenario' (metaphorical meaning: **incoherence**).

(20) A. *Gaoguan* ***luoma*** 'The senior official **falls from a horse**' (metaphorical meaning: **is arrested because of corruption**).
B. *Mingjiang* ***luoma*** 'The famous athlete **falls from a horse**' (metaphorical meaning: **fails in the competition**).

(21) A. *Gei ziji* ***tuzhimofen*** '**whitewash** oneself' (metaphorical meaning: **makes strong points for oneself**).
B. *Gei chengshi* ***tuzhimofen*** '**whitewash** the city' (metaphori-cal meaning: **beautify**).

(22) A. *Hutu nanren zi dai* ***'lv maozi'*** 'The stupid man wears a "**green hat**" for himself' (metaphorical meaning: **label for a man whose wife has an outside lover**).
B. *Shipin luan dai* ***'lv maozi'*** 'Food wears the "**green hat**" randomly' (metaphorical meaning: **label for food which complies with the requirements of environmental protection**).

(23) A. *Qunuanqi shi jia li de* ***xiao taiyang*** 'The heater is **the small sun** in the family' (metaphorical meaning: an **electrical appliance emitting heat just like the sun in the sky**).
B. *Wo erzi shi jia li de* ***xiao taiyang*** 'My son is **the small sun** in the family' (metaphorical meaning: **the center of attention in the family**).

(24) A. *Ta wei ziji de rensheng* ***hua shang le*** *yuanman de* ***juhao*** 'He **put a** final **period** to his life' (metaphorical meaning: **died**).
B. *Ta wei ziji de yundong shengya* ***hua shang le*** *yuanman de* ***juhao*** 'He **put a** final **period** to his sports career' (metaphorical meaning: **was no longer a professional athlete,** or: **had retired**).

Although the boldfaced words or phrases in each pair are metaphorical expressions with the same part of speech and the same syntax, they produce similar but not identical meanings (in 19, 20, 21 and 24), or quite different meanings (in 17, 18, 22 and 23). The meanings in the same pair may refer to quite opposite things (in 17), or may denote a dead metaphor (22-A) as well as a novel metaphor (22-B). In other words, these metaphors do not have a definite textual connotation without a textual context.

3.2. Situational context

A situational context refers to the specific situation in which a speech act takes place. In language communication, the context plays an important role in expressing and understanding metaphors. Within the theoretical framework of pragmatics, it is taken for granted that proper expression and correct understanding of words rely on the situational context. In discourse, more often than not, the speaker cannot adequately convey his/her intention only by words without the help of the context. On the other hand, the listener is more likely to fail to

grasp the speaker's connotation without the aid of situational context. As we know, to understand fully the meaning of the speaker, it is not enough for the hearer merely to catch the 'literal meaning'; he or she has to infer the 'implicature' (as proposed by Grice in 1957) beyond the given words in accordance with the particular situation (Suo 2000:17). Then, what a metaphorical interpreter should do is to catch the implicature beyond the language form. Therefore, as to metaphorical comprehension, the special dependence on the situational context cannot be ignored when we talk about the processing of metaphor.

As far as language generation is concerned, the situational context has an effect on the speaker in his choice of content, his manner of expression, and his way of speaking; and as far as language comprehension is concerned, the situational context helps the hearer determine the referent, clarify any ambiguity, and elicit the implied meaning (He and Chen 2004:121). The function of the situational context consists in its differing effect on the expression and comprehension of a particular meaning in various conversational contexts, and thus the situational context contributes to the understanding of a certain metaphor. The situation in which a word or phrase is used, and not merely the literal meaning of the word or phrase itself, is likely to determine its metaphorical meaning. Strictly speaking, the meaning of a metaphor in the particular situation in which it is used is the only meaning of that metaphor. Accordingly, metaphorical cognition greatly depends on the situational context of a metaphor.

Let us take the following metaphors as examples. These metaphors have different interpretations in various situational contexts as each has its own semantic direction in a given situation.

(25) *Zhang San shi laohu* 'Zhang San is a tiger'. (The metaphor may mean, 'Zhang San is very strong', 'Zhang San is very brave', 'Zhang San is very fierce', …).

(26) *Zhang San shi laoshu* 'Zhang San is a mouse'. (The metaphor may mean, 'Zhang San is thin and small', 'Zhang San is furtive', 'Zhang San is thievish', 'Zhang San is frightened'…).

(27) *Zhang San shi houzi* 'Zhang San is a monkey'. (The metaphor may mean, 'Zhang San is very skinny', 'Zhang San is very skillful', 'Zhang San is very smart', 'Zhang San is mischievous'…).

(28) *Zhang San shi zhu* 'Zhang San is a pig'. (The metaphor may mean, 'Zhang San is very stout', 'Zhang San is very lazy', 'Zhang San is very stupid', …).

The vehicles 'tiger', 'mouse', 'monkey', and 'pig' in these metaphors can only be interpreted correctly in a particular situation. For example, we can call a full-bodied man a 'tiger', and we can also call a tough guy a 'tiger'; the correct sense will only emerge in a specific situational context. In this way, the limitations of a certain situation may endow the strangest word or phrase with the relevant meaning. Let us discuss the interpretations of the metaphor 'Zhang San is a tiger' in detail. If the 'Zhang San' we refer to is as strong as a tiger, then we may interpret the metaphor as 'Zhang San is very strong'; if the 'Zhang San' we are speaking of, charges forward as bravely as a tiger in a competition or on the battlefield, then we may understand it as 'Zhang San is brave'; if the 'Zhang San' we are talking about, often quarrels with others and wants to swallow his rivals just like a tiger, then we may explain the metaphor as 'Zhang San is very fierce'; but if the conversation is about people's animal representation of a birth year in Chinese culture, then the statement 'Zhang San is a tiger' is not a metaphor at all and we can only account for it as 'Zhang San was born in a Chinese year of the tiger'. Likewise, the real meanings of 'Zhang San is a mouse', 'Zhang San is a monkey', or 'Zhang San is a pig' should all be determined in accordance with the particular situations of use.

From the above discussion, we may summarize that varying meanings will be produced if the same metaphor is expressed in

different situational contexts. Especially for those metaphors whose diverse meanings depend on the uncertainty, ambiguity, or divergence of their semantics, it is hard for the interpreter to grasp the sender's intention without the situational context, because the connotations of such a metaphor will lose their precision in the absence of its context. According to the theory of relevance put forward by Sperber and Wilson (1995:15), in dealing with discourse, people tend to presuppose the existence of relevance, then search for the situation to meet the relevant condition, and finally decide on an interpretation for the utterance in question. If we apply this to metaphorical comprehension, the process should go like this: In dealing with metaphor, people tend to presuppose the existence of a mapping, then search for the situation that meets the mapping condition, and finally decide on how to interpret the metaphor.

3.3. Cultural context

A cultural context is the sociocultural background in which the metaphor producer lives. Thinking is a function of the brain; metaphorization, as a means of cognition, embodies the general characteristics of human thinking. However, metaphorical thinking is also a kind of cultural behavior. Although the physiological structure of the human brain is virtually the same for people of every nationality or ethnicity, different language communities employ their own languages, which have led them to develop their own unique ways of conceptualizing the outside world. On the other hand, in different language communities, the world produces all kinds of approaches to the conceptualization of the same idea by means of its reflection in language.

Cognitively speaking, human beings have much in common. As human cognitive activities are rooted in daily experience, however, metaphorical cognition has a great deal to do with a person's culture. Whether one intends to express a literal meaning or a metaphorical

meaning, one's language is situated within its cultural boundaries. Hence, metaphorical cognition is in the final analysis a sort of cultural behavior. If we ignore the influence of culture, we cannot explain how the metaphorical association between a source domain and a target domain takes place; neither can we explain how the two different conceptions can be connected in our mind. Outside of the cultural context, without the knowledge and understanding of a particular culture, one cannot conduct the metaphorical creation and comprehension by means of biological instinct and pure psycho-biological mechanisms only. According to Songting Wang (1996), how a cultural factor exerts its effect on metaphorical perception manifests itself in the following three ways: 1) Cultural consciousness provides a frame of reference and a psychological basis for the association in the process of metaphorical perception; 2) Cultural factors supply an esthetic notion i.e., a 'taste' for metaphorical perception; 3) Cultural factors also furnish a value orientation for metaphorical perception. Among these factors, the author believes that the first is the most essential because the aesthetic notion and the value orientation are both based on the cognitive frame of reference and the psychological basis.

The experience of metaphor is influenced by the environment of culture. People live in their own cultural atmosphere, receiving instruction from the culture, and being influenced by the culture. In this way, they have gradually formed their own fixed manners and esthetic notions. For instance, bamboo has rich connotations in Chinese culture. There is a Chinese idiom *shi ru po zhu* 'the situation is like splitting bamboo', which means 'one success after another with no obstacles at all, just like splitting bamboo: when it is split from the top it will be separated into two quite easily' (Contemporary Chinese Dictionary 2006). For ordinary Chinese, it is easy to imagine the scene of a situation which is like splitting bamboo, because they know the characteristics of bamboo; as a result, it is easy for them to map between the source domain and the target domain. But for people living in countries without bamboo, it is difficult to picture a scene such as referred to by the expression 'the situation is like splitting bamboo'

because they do not have any direct experience with bamboo, and at most possess some vague concept of bamboo, obtained by looking it up in a dictionary or by consulting the internet. Therefore, culture can hardly be replaced as the source of the metaphorical differences in different languages and for its role played in metaphorical perception.

The composition of metaphor is shaped by culture. There is a close relationship between metaphorical conception and cultural mold. A metaphor is created and accepted in a particular culture. Since its inventor and interpreter are the carriers of the culture, the metaphor is bound to present their cultural notions. The occurrence of metaphorical expression in language is systematic, which not only reflects a person's psychological structure, but also the function of the cultural mold (Lin 2002). The mold of culture and the composition of metaphor are not identical, but rather exist in a relation of the determining and the determined. Any thinking activity, including understanding a metaphor, is premised on the agent's consciousness of cultural experience. The cultural environment and the atmosphere for association are indispensable to the increase of a person's level of knowledge and the accumulation of his/her practical experience. The ancient Chinese philosopher Zhu Xi said, 'Everything has its law and every law stems from the same source, so the law can be deduced from and applied to all'. It is on the basis of association that metaphors are created and accepted.

In people's daily activities, some social phenomena happen to have a stable corresponding relationship with people's psychological feelings. For example, red color has quite different connotations in Chinese culture than in Western culture. Red is the Chinese people's favorite color; it embodies the Chinese's spiritual and material pursuit and signifies something lucky and happy. The following examples concerning 'red' illustrate its connotations in Chinese culture. The one who contributes to a perfect marriage for others is called *hongniang* 'red maid' (matchmaker). People hang *da hong denglong* 'bright red lanterns', put up *hong duilian* 'red couplets' and *hong 'Fu' zi* 'the red Chinese character "Fu" (good luck)' during festivals, put up *da hong 'Xi' zi* 'the

red character "Xi" (for "happiness")' in wedding ceremonies, and label 'festivity' and 'prosperity' as *honghuo* 'red fire'. But in Western countries, 'red' connotes something bad, associates with 'fire' and 'blood', symbolizes 'cruelty' and 'bloodshed', such as in 'red revenge', and 'a red battle', represents 'hazard' and 'tension' as in 'red alert' and 'a red flag', and even signifies 'profligacy' and 'obscenity' as in 'a red light district'.

The interpretation of metaphor is restricted by culture. Metaphors in language contain a great deal of culture, and thus can serve as carriers of tradition, values, and progress. Therefore, a metaphor which indicates cultural conflicts and diversities has its own nationality and restriction. Cultural marks must be displayed in metaphors, as different cultures are deposited in their own metaphors. For example, in the concept of 'ARGUMENT IS WAR', an argument is termed *bi zhan* 'pen war' in Chinese, 'paper war' in English, and 'ink war' in Russian. 'ARGUMENT' in these three languages is similarly compared to 'WAR', yet the naming is different from country to country, as people in different countries have their own perspective from which to observe the world. Thus, some metaphorized expressions in one language may simply be inconceivable to non-native speakers. For example, the metaphor 'love with my heart' in English is equivalent to the expression *yong wo de xin qu ai* 'with my heart to love' in Chinese; here, both languages use the identical source 'heart'. By contrast, the same meaning is expressed in various ways in other languages, such as 'love with my stomach' in Mayan (Central America), 'love with my liver' in Latin and some African languages, and even 'love with my throat' in one of the local dialects of the Austronesians of the Marshall Islands, NW Pacific (Li 1996).

On the other hand, the same metaphorical vehicle is interpreted quite differently in different languages as people have their unique cultural psychology, customs, and value orientations in their own culture. For example, in western cultures, 'a dog' is likely to be perceived as something good, often as a synonym of 'a loyal friend to man' because people in their culture have favorable impressions of dogs; this can explain why metaphors related to dogs in English usually

contain positive meanings, for example, 'a lucky dog', 'love me love my dog', and so on. However, in Chinese culture, to call someone *lao gou* 'an old dog' is abusive language, hard for people to bear, because in Chinese culture a dog is traditionally treated as a humble animal, which can account for why metaphors linked to dogs in Chinese usually reflect something negative, for example, *gou tou junshi* 'a dog-headed military strategist' (inept adviser), *gou zui li tu bu chu xiangya* 'ivory cannot be pulled out of a dog's mouth' (a filthy mouth cannot utter decent language), *gou pi gaoyao* 'dog-skin medicine' (quack remedy), *gou yan kan ren di* 'looking down on others with one's dog's eyes' (being snobbish), *gou zhang ren shi* 'A dog depends on the power of its master' (a bully is under the protection of the powerful), and so on. One more example is that the Chinese metaphor *Lei sheng da, yu dian xiao* 'Big thunder, little rain' is often translated into English with the expression 'Much cry and little wool'. However, Chinese people tend to understand the former as 'Big talk, little action', while English-speaking people often explain the latter as 'useless endeavor'. Therefore, similar ideas can be expressed differently in different cultures.

Language can not only serve as a means of communication, but also as a means to show traditional and cultural value connotations. In virtue of their linguistic form, metaphors demonstrate the varieties of culture, so each metaphor bears its own characteristics and observes its cultural limits. Owing to cultural differences, the words or phrases adopted to describe the same thing in different languages are most likely to suggest different connotations or associations. That is why the identical abstract concept in different cultures is likely to be described with different conceptual metaphors; alternatively, an identical metaphor is employed to express different concepts. The same expression in different cultures 1) is represented by different symbols because 2) the symbolic meanings have their own characteristics in 3) the different languages; some of these represent people's preferences, taboos, fondness of, or hatred toward the special expression, gained by extension or conversion. The key function played by the cultural environment in which the agent resides cannot be overlooked. People

of different nationalities in different districts can invent different metaphors. In contrast, even in the same language community, people may understand the same metaphor differently due to their own particular personal experiences. The diversity of symbolic meaning in discourse can be attributed to different cultural backgrounds and notions of esthetic psychology, the latter being a constant cultural phenomenon gradually established in the development of the society and the sediments of history. To some extent, the living environment, life experience, folk customs, religious beliefs, and value notions all lead to differences in the generation and understanding of metaphors in different languages.

Of course, people's esthetic notions are not invariable and metaphors will never lose their vitality, even though some esthetic notions will be held constant for quite a long time. On the one hand, cultural influence on people's behavior patterns is exerted by means of unconscious accumulation; on the other hand, new modes of behavior are consciously accepted or rejected by means of new insights. People's esthetic notions have gradually been rooted in the two ways mentioned above and have been developing continuously over time. Likewise, to hold their fascination, metaphors have continually been produced and updated as people have constantly been developing the underlying concepts. It can be said that the development of metaphors occurs in synchrony with the growth of culture. Thus, the development of metaphors reflects all types of cultural factors: the renewal of human ideology, the enhancement of the human cognitive level, and the depth of perceptive degree.

4. Conclusion

The mapping process from the source domain to the target domain of any metaphor is directly affected by agentive and contextual factors. Hence, these agentive and contextual factors should be taken into account in considering the ways in which the mind processes

metaphors. If we jump to conclusions about the interpretation of a metaphor without considering the effect of the agentive and contextual factors on people's understanding of metaphors, our conclusions could easily be erroneous. Here, the author is in agreement with Jean Piaget's Construction Theory: the interaction between agent and his/her cognitive context constructs the understanding (Piaget 1995:1). This viewpoint is valid not only for the understanding of the general world, but also for the understanding of such particular language forms as metaphors.

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Notes

* Table by Katz (1996), quoted in Shu (2000:211).

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