Conceptual Metaphors of “Cold” from the Perspective of Cognitive Linguistics: A Corpus-Based Comparative Study of English and Chinese

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Abstract. Metaphor as a kind of cognitive mechanism closely relates to the thinking methods and is a cognitive process of understanding a new concept in terms of experience and knowledge. This paper, with the research method of English and Chinese corpus, and on the basis of the conceptual metaphor theory from Lakoff and Johnson, analyzes and compares the differences in the conceptual metaphors of “cold” and illustrated the reasons. The research finds that similarities and differences of metaphors coexist and its metaphorical mapping mostly focuses on the emotion and attitude domain, psychological domain, processing domain, and war domain. Not only does Chinese “cold” have more metaphorical meanings than English “cold”, but also it covers a wider metaphorical scope. The results of the research are useful to exploit the relationship among word meaning, and expose the hidden cognitive mechanism, which help understand conceptual metaphors.

Introduction
Cognitive linguists hold an opinion that metaphor is not only a rhetorical way but also a kind of cognitive activity, and it plays a significant role in understanding the world the concept structure. In the recent years, people gradually use cognition to explain metaphor phenomena. Metaphor exists in people's behaviors and thoughts as well as in languages.

People’s sense and experience of the world rely on their physical experience. Temperature is one of the most fundamental experiences for people. Words depicting the sensation of temperature generally exist in the languages of English and Chinese. Therefore, most scholars are committed to the study of conceptual metaphors in the temperature domain. For example, Deignan suggested that semantic relations of temperature-related words in the emotion objective domain is prominent[1]. The current study on the temperature-related words in China mainly focuses on the metaphors of sensory characters in Chinese and the temperature schemas in English. However, the studies on the comparison between specific cognitive processes of temperature words and the differences of metaphors are scarce comparatively. Besides, the sources of linguistic data are lack of authority and persuasion, and the corpus has not been massively applied. Therefore, analysis of conceptual metaphors according to word frequency in the corpus should be advanced.

The Theory of Conceptual Metaphor
Lakoff and Johnson are the first scholars who put forward the conceptual metaphor theory in the works of Metaphors We Live By, which describes that metaphors are pervasive in everyday life, not just in language but also in thought and action, and the human conceptual system is built on metaphors [2]. They considered metaphor as a cognitive mechanism in human languages and thoughts rather than solely a kind of linguistic phenomenon. And their work has promoted the study on metaphor to the level of the cognitive study field [3].

Conceptual metaphor involves two conceptual domains, one of the source domain and the other of the target domain. It works through mapping part of features of the source domain to the target domain, so as to make the target domain understood. Conceptual metaphor originates from the similarities of conceptual domainsand hence projects from a concret concept domain to an abstract concept domain [4].
This paper, based on corpora, from the perspective of cognitive mechanism of metaphor, mainly illustrates the scope of domains of “cold” in Chinese and English, with their similarities and differences of the usages of metaphor meanings. Furthermore, it explains reasons of these similarities and differences in terms of languages, geography, humanity, society, history, etc. Linguistic data in the study mainly reference the British National Corpus and CCL Corpus. The two corpora share features of large volume and coverage.

**Similarities in Conceptual Metaphor of “Cold” in Chinese and English**

The categories of basic meanings of “cold” are related to low temperature, which primarily refer to the natural phenomenon of air temperature being lower than normal. But this concept was later used to clarify some abstract concepts. The same body structure and similar living space of humans lay the foundation for comprehension of semantic structures of different cultures [5]. People living in different places share the same body structure, and hence, have similar experience and cognition about “cold” in Chinese and English.

**Tension and Fear**

Low temperature can make people physically cold especially in freezing winter. When temperature reduced to zero, a host of animals and plants fail to survive. Harsh environment brings people a sense of tension and urgency, and people feel shiver when facing tension and fear. The interaction leads to the projection of the “cold” temperature domain to the emotion and attitude domain, so “cold” is commonly used to describe the emotion of tension and fear.

1. When catching the first glimpse of the dark hole, he was frightened and in a cold sweat.
2. Then I hear the thud as he hits the floor—then I wake up in a cold sweat.

**Lack of Humanity**

The serious and hard-hearted character can give a sense of distance to others, making people feel indifferent and untouchable. Therefore, according to the similarity principle of metaphor cognition, humans tend to project the cognition of “cold” from the temperature domain to the attitude domain, thereby expanding the meanings to “indifferent and unfriendly”.

1. An oil lamp casts flicking shadows on her pale face, reflecting her determined and cold look.
2. David had looked at her with cold eyes, saying in a hard voice.

**Loss of Confidence and Expectation**

People can easily feel discouraged when a large gap exists between reality and expectation, which is always in the company of a cold sensation flowing through your body all of a sudden. This sensation drives humans to project from the primary temperature domain to the target domain and psychological domain, and expand the meanings to “loss of confidence and full of disappointment and sorrow”.

1. He felt cold and angry.
2. My heart was so cold that I could not fall asleep all night.

**Cool Tones**

Projected from the temperature domain to the color domain, “cold” refers to the colors mainly of green, blue, and purple that give people a cool feeling and make people quiet and calmed down.

1. The senses of excitement and calm expressed by colors mean warm colors often can make people excited and cold colors make people calm down.
2. The cold overall tone in the image is brilliantly accompanied by the golden in the grass and on the towers.

**Low Temperature Processing**

The cognition of “cold” is projected from the temperature domain to the processing domain through the metaphor mechanism, suggesting the way of low temperature processing.
Production increase mainly targeted steel materials including cold-rolled sheets, hot-rolled sheets, galvanized sheets, etc., and the production is 1 million tons more than that in the last year.

The machine tools had been extracted and put into cold storage, separately from one another.

**Weapons and Wars**

Cold weapons used for fights are equipment free from gunpowder, exploitive, and other heat sources. Cold wars are conflicts without weapons involved between countries, and mainly depend on imposing economic pressure and hostile propaganda and other measures to accomplish containment without resort to force.

(1) After the second World War, the United State and Soviet Union turned to be rivals rather than allies, and the landscape of cold war formed.

(2) In the cold weapon age, capturing castles mainly depended on surprise attacks, siege, skillful occupation, and other methods, and it was hard to win by storming.

**Disease Domain**

The loss of balance in temperature for humans can result in cold diseases such as cold and uterus cold. The meanings of “cold” here are diseases due to low body temperature. And hence, the cognition of “cold” is projected from the temperature domain to disease domain through metaphor mechanism.

(1) The patient has a fever but feels cold; the arms and legs or the legs are cold, the complexion is pale, the patient feels dizzy and likes to lie on the bed, and the waist and knees ache.

(2) People are more likely to catch a cold or flu, for example, and be less able to shake it off.

**Differences of Conceptual Metaphor of “Cold” in Chinese and English**

Although people in Chinese and western countries have the same sensation organs, differences in geography, lifestyles, cultural backgrounds, and thinking methods bring them a lot of distinctions in the experience and cognition of “cold”, which have been reflected in languages. The differences in metaphor projection of “cold” in English and in Chinese are as follows.

**All of a Sudden and out of Expectation in Chinese**

Cold air massively flows from north to south at the beginning of winter, resulting in abrupt decline of air temperature in a large area, and inconvenience to humans’ normal life. Therefore, “cold” extends to a new meaning as sudden and out of expectation [6].

(1) And it is inharmonious using it in speaking language out of expectation.

**Inactive Atmosphere and Scarce Attention in Chinese**

Cold is a typical feature of winter and hated by a majority of people. In cold winter, animals and plants are in a state of hibernation, and humans tend to avoid going or doing activities outside. Therefore, “cold” in Chinese often is used to describe the situations with few people and scarce attention.

(1) For some characters, there are no homophonic ones, or otherwise, homophonic characters exist but are rarely used, and marking is meaningless.

(2) American geneticist Snell transferred to the study of the unpopular subject of transplantation immunity in the 1940s when genetics is very sought-after.

**A life state in English**

Humans feel dizzy when temperature is very low.

(1) He drank until he was out cold.

**Useless in English “Cold comfort” means ineffective comfort.**

(1) She nodded glumly. It was cold comfort, all right. To change the mood he returned to the seat opposite her and daringly, reached a hand across and squeezed her knee.
Analysis and Discussion

The experience from languages relates closely to the experience from metaphor [7]. The metaphor projection of “cold” is rooted in the body experiences of humans. The identical body structure enables English and Chinese people share the basically same experience and cognition, and create similar conceptual metaphors. However, the differences in geography and cultural background result in distinctions in subjective and objective experiences of “cold” for English and Chinese people, which lead to individual metaphor expressions in language [8]. Similarities and differences in conceptual metaphor of “cold” in Chinese and English are shown in Table 1.

<table>
<thead>
<tr>
<th>Similarity</th>
<th>Cold in Chinese</th>
<th>Cold in English</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Emotion domain</td>
<td>1. All of a sudden</td>
<td>1. Unconsciously</td>
</tr>
<tr>
<td>2. Attitude domain</td>
<td>2. Lack of attention</td>
<td>2. Useless</td>
</tr>
<tr>
<td>3. Psychological domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Color domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Processing domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. War domain</td>
<td></td>
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<tr>
<td>7. Disease domain</td>
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</tbody>
</table>

As suggested in the figure, the concept of “cold” in English and Chinese has a total of 11 metaphor projections, in which 7 projections are shared, 2 are individual to English, and the other 2 to Chinese. Therefore, similarities are more general in conceptual metaphor projection between the concept of “cold” in English and Chinese, and coexist with some differences, which reflect the similarity and difference in thinking between English and Chinese people.

Corpus linguistics is a discipline developed in recent years. Its objective is to find linguistic facts and features among enough authentic materials stored on computer which has been marked for various study objectives and can be easily searched out using retrieval tools [9]. The study adopts the corpus study method and selected linguistic data based on the frequency of words and characters.

<table>
<thead>
<tr>
<th>Cold in English</th>
<th>Cold in Chinese</th>
</tr>
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<tbody>
<tr>
<td>number</td>
<td>number</td>
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<tr>
<td>Word</td>
<td>word</td>
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<td>frequency</td>
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<td>frequency</td>
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</tbody>
</table>

In our study, 200 linguistic data about “cold” were extracted from the BNC Corpus and ranked according to frequency. The statistics suggests 50% data are metaphors and another 50% are not
metaphors. The concept of “cold” is projected most to the emotion domain and attitude domain, and secondly to the processing domain and disease domain. At the same time, 200 linguistic data about Chinese “cold” are extracted from the CCL Corpus including 76% of metaphors and another 24% of non-metaphors. It was concluded that the concept of “cold” is projected most to the emotion and attitude domain and psychological domain, and secondly to the processing and other domains.

The study suggests that mapping of the emotion and attitude domains exist most in the English and Chinese linguistic data, which are the most basic metaphor projections as for “cold”. The sensation of temperature is the most basic experience for humans, and people have a tendency to map their cold feelings to the emotions and attitudes experienced in daily life. It can be concluded that language metaphors are closely related to human experiences and cognition. Besides, language communication leads to the same meanings and usages in English and Chinese. The expression of cold war was created during the western country’s Cold War, and after language communication, cold war was gradually adopted by Chinese.

In terms of differences, from the perspective of geography and climate, English-speaking countries especially the UK are affected by oceans all the year around, so that people living in these countries have strong cold feelings, which results in over 50% original meanings of “cold”. While as China crosses the tropical and subtropical zone of warm temperature, people do not have such intense cold feelings, so there are more metaphorical expressions in Chinese. For the industrial development, as western countries have advanced industry in processing food and metals, they create a lot of cold processing methods, such as cold storage and cold rolling, therefore, metaphors of the processing domain for “cold” have a large percentage. From the perspective of history and culture, as Chinese culture attaches importance to courtesy and hospitality, Chinese people focus on the interpersonal relationship and are especially sensitive to indifferent attitudes, which leads to high frequency of expressions in the psychological domain including indifferent, hard-hearted, and despise.

<table>
<thead>
<tr>
<th>Conceptual domain</th>
<th>Processing domain</th>
<th>Disease domain</th>
<th>War domain</th>
<th>Color domain</th>
<th>Emotion domain</th>
<th>Psychological domain</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>In English</td>
<td>25%</td>
<td>20%</td>
<td>5%</td>
<td>3%</td>
<td>35%</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>In Chinese</td>
<td>15%</td>
<td>9%</td>
<td>3%</td>
<td>3%</td>
<td>23%</td>
<td>23%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Figure. 1. Percentage of conceptual metaphor of “cold”.

Summary
As an important cognitive mechanism, conceptual metaphor plays an important role in human’s understanding, forming corresponding concepts, and enriching language. This paper compares and analyzes the conceptual metaphor projections of “cold” with Chinese and English corpora.
respectively. As indicated by Wang Yan, the similarities between languages should be attributed to the basically identical natural world we all live in as well as the same body structure and functions, while the differences between languages result from individual society and cultures and distinctive cognitive methods [10]. The study suggests that embodied cognition is significant in the process of conceptualization of humans, our body experiences contribute to the similarities in conceptual metaphor, the individuality and differences should be attributed to distinctive cultural backgrounds and geographical environments.

References


