

Mapping Image-Schemas and Translating Metaphors

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ABSTRACT

In this paper we demonstrate that identifying the mappings between the source and target domains for a conceptual metaphor allows for both a greater understanding of the conceptual basis of metaphors, and more effective language translation. We first introduce and explain the Animal Metaphor to support our idea. We show that the Animal Metaphor exists in both English and Chinese, but that it maps different information from the source to the target domain. We then propose three principled steps to aid in the translation of metaphors from one language to another, using the animal metaphor as an example. Lastly, we summarize our findings and discuss future areas of research.

1. INTRODUCTION

Current understanding of metaphors has centered on identifying conceptual metaphors in a particular language, such as the following metaphors in English: TIME IS UNDERSTOOD AS) MONEY, LIFE IS A JOURNEY, GOOD IS UP, BAD IS DOWN, etc. [2]. These are conceptual metaphors, that is, they map one conceptual domain (i.e. money) onto another (i.e. time), as opposed to image metaphors, which map only one visual image onto another visual image. An example of a image metaphors is: 'Her waist is an hour-glass.' The visual image of the shape of an hour-glass is mapped onto the waist.

Image metaphors are 'one-shot' deals, unlike conceptual metaphors which allow many concepts in the source domain to be mapped onto corresponding concepts in the target domain. These concepts are called image-schemas. For example, in the metaphor LIFE IS A JOURNEY we find the following metaphorical usages, as in (1).

- (1a) He's cruising down the highway of success.
- (1b) You'd better slow down and think about what you want to do with your life.
- (1c) She lives her life in the fast lane.

All these examples have to do with the image schema of *speed*. *Speed* in the source domain of JOURNEY relates to the speed at which the journey (usually in a car) takes place. This image-schema maps onto the *speed* at which LIFE takes place.

Lakoff [1] proposes the Invariance Principle to guarantee that the mapping is consistent in the both the source and target domain. The Invariance Principle states:

Metaphorical mappings preserve the cognitive topology (that is, the image-schema structure) of the source domain, in a way that is consistent with the inherent structure of the target domain. (P. 215)

Thus, given the Invariance Hypothesis, *speed* could not map onto the *direction* that one is going in the LIFE IS A JOURNEY metaphor. *Direction* is a different image-schema that exists in a JOURNEY and may or may not map onto LIFE in the LIFE IS A JOURNEY metaphor.

In addition, image schemas that map cross-linguistically for the same conceptual metaphor may be a) central to the metaphor and b) a part of all human's conceptual system. Looking at the mapping

problem from a cross-linguistic point of view also gives us the additional benefit of being able to formulate principles for translation of conceptual metaphors, which is a difficult problem in NLP.

In what follows, we explain the image-schemas that are mapped in the metaphor in ANIMALS ARE HUMANS for English (Section 2) and Mandarin Chinese (Section 3). (In this paper, 'Chinese' or 'Mandarin Chinese' refers to the Mandarin Chinese spoken in Taiwan and English refers to American English.)

In Section 4, we lay out the principles for conceptual metaphor translation and give examples to support our principles. In Section 5, we summarize our findings and point to future areas of research.

2. THE ANIMAL METAPHOR IN ENGLISH

Animals often take on human traits, such as language, in stories and movies. This is known as personification. However, there is no term in English to describe the reverse situation, that is, when humans take on animal traits, although the phenomena certainly exists, as shown in (2) below.

(2a) He's gone through that whole stack of cookies. What a pig!

(2b) Come on, Harold, jump! Don't be such a chicken!

(2c) He stays out until 3am every night -- a real night-owl, if you ask me.

These examples all can be handled under the general metaphor of HUMANS ARE (UNDERSTOOD AS) ANIMALS, where ANIMALS are the source domain, and HUMANS are the target domain. The comparison of animals to humans is done, we assume, throughout all languages. But straightforward comparisons that rely on function words to present the comparison, such as 'like' or 'as' are not what we are interested in. We are instead interested in the mapping of conceptual domains -- in this case, the conceptual domain of animals is being mapped onto the conceptual domain of humans. In conceptual mapping, no function words are necessary.

The main question that we want to answer here is: what information is present in the source domain (i.e. ANIMALS) that is also used in the target domain (i.e. HUMANS) in English? For example, the appearance and behavior of animals are particularly salient to humans. Do we map information about animals onto humans using these two schemas?

2.1 Appearance

The following animal metaphors in (3) refer to the appearance of a person. Appearance involves either overall size and/or overall physical characteristics. The interpretation is given in parenthesis following the metaphorical usage.

(3a) She is a cow. (She is fat).

(3b) He's an elephant. (He is fat).

(3c) She's a fox. (She is attractive).

(3d) S/he's a dog. (S/he is unattractive).

The appearance of a body part of an animal can also be transferred to humans, as in the following examples in (4).

(4a) Her hair is done up in pig-tails. (A short, tight braid of hair).

(4b) His hair is done up in a pony-tail. (A longer, loose bunch of hair tied up).

2.2. Behavior

Salient behaviors of animals are also found in the target domain. In the following cases the behavior of the animal is ascribed a certain characteristic, which is then attributed first to the animal, and then to the person. For example, a goat will butt at fence post until it loosens. English speakers

attribute obstinacy to this kind of behavior. Thus, when we saying someone is an old goat, we mean that that person is obstinate. The following examples in (5) are nominal instances of the Animal Metaphor.

- (5a) What an old goat! (obstinate person)
- (5b) You're not a bunch of sheep -- if someone jumps of a cliff, does that mean the rest of (5c) you should follow? (people without initiative or a mind of their own)
- (5c) Don't be such an ostrich! (one who avoids facing facts)
- (5d) They're just a bunch of gorillas. (Stupid, savage ruffians)
- (5e) He's a pack-rat all right -- his basement is full of garbage. (hoarder)
- (5f) That cat over there can swing. (cool person)

Other animal behavior can be described using verbs as the following examples in (6) show. In these cases, humans ascribe a certain action to an animals (such as hoarding to squirrels, or following to dogs, or imitating to apes). Then, when a human performs a similar action, the verb can be used to describe what the person is doing.

- (6a) She squirrels away her allowance so that her alcoholic father won't get it. (hides)
- (6b) Stop hounding/dogging me for my autograph. (following)
- (6c) Stop aping him. (imitate in a thoughtless and derogatory manner)

It is possible of course for the animal metaphor to be used in both the noun and verb forms, as well as adjectives, as in (7)-(11). Adverbial usages are not found.

- (7a) What a pig! (glutton)
- (7b) Stop pigging out.
- (7c) You're just being piggish.

- (8a) That frat is full of wolves. (men who prey on women)
- (8b) Don't wolf your food. (eat like a predator)
- (8c) He gave a wolfish grin. (predatory)

- (9a) You're just a chicken.
- (9b) You're just chicken. (scared)
- (9c) Don't chicken out.

- (10a) He out-foxed his opponent and won in record time. (tricked)
- (10b) What a fox! He sure tricked me. (cheater)
- (10c) He sure is foxy. (ambiguous between cunning and/or attractive).

- (11a) What a little monkey. (troublemaker)
- (11b) Stop monkeying around! (fooling around)
- (11c) What monkeyish behavior!

2.3 Sounds

The above examples demonstrate that it is common for humans to be understood as animals in English. This metaphor, in fact, extends to the sounds that we ascribe to animals. Not all animals are ascribed sounds in English. Some of the ones that do include: cows saying 'moo', pigs saying 'oink', chicken saying 'bawk', dogs saying 'woof'.

When these sounds are directed at one person, the speaker is indicating that the listener embodies the salient characteristics of the animal which makes that sound. For example, an older brother might tease a younger brother by saying 'Bawk-bawk-bawk' to indicate that the other one is

afraid to do something. Mean kids on a playground would yell 'moo' when they see a fat person walking by.

2.4 Image-schemas and accompanying inferences

We have found that in English the appearance of the animal, the behavior of the animal, and the sounds of the animal can all map to the target domain to indicate that the person thus referred to embodies the characteristics of that animal. Figure 1 below shows the image schemas that map.

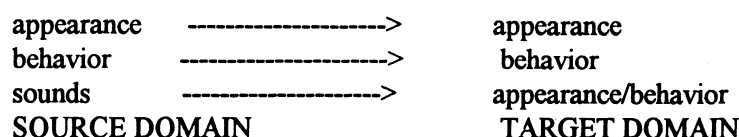


Figure 1
Image schemas that map in the Animal Metaphor in English

Mapping the image schema from the source to the target domain is not a meaning-neutral process. In all cases, it maps the feature of [-human]. So by looking like an animal or behaving like an animal one is behaving less like a human. This is more pronounced in the cases of 'pig' or 'goat' for example, and less pronounced in the case of 'squirrel (away)', probably because the latter has a less negative connotation.

The mapping of negativity is quite pronounced in most of the cases listed above (except perhaps cat and squirrel), which is natural result of most English-speakers feeling that humans are *a priori* better than animals. There are at least two animals (the lion and tiger), however, that embody characteristics that speakers of American English view positively. The lion usually embodies courage or importance, and the tiger embodies aggressiveness, as in (12).

- (12a) She is a lion-hearted girl.
- (12b) He is a literary lion in Europe.
- (12c) He is a tiger for work.

Thus, the mapping of negativity does not necessarily hold, and needs to be identified on a case by case basis. However, it can be argued that the mapping of -human does still hold, because even though the traits that are mapped in the case of lion and tiger are positive, they are also somewhat less like humans in the superhuman (i.e. better than human) sense.

3. THE ANIMAL METAPHOR IN MANDARIN CHINESE

Mandarin Chinese also makes use of the Animal Metaphor, although in a slightly different way. First of all, there is no mapping of sounds from the source domain to the target domain. Second, appearance is mapped, but only when referring to body parts. Third, behavior is mapped in the lexical categories of nouns and stative verbs. Again, comparisons that occur because of 'yi-ban' or 'xiang ru' or 'ru' or 'you ru' or 'xiang' (which all mean 'like' or 'as') are not included in the discussion, and neither are animals that occur in idioms, since we are restricting our discussion to mappings across conceptual domains.

3.1 Appearance

The appearance of an animal maps from the source domain of animals to the target domain of humans in Chinese, but only body parts are allowed to map. In examples (13)-(16) below, we see that 'four eyed toad', 'horse face', 'goldfish eyes', 'tiger's back', etc. all indicate the specific body part of the animal that is being referred to. This specific body part then maps to the person's body. So for example, a person with a 'horse face' has a long, thin face, and a person with a 'tiger's back' has a broad back.

(13) na ge si yan tianji kuai yao lai le, dajia gankuai zuo hao
that CL four eyes toad quick will come PT everyone quickly sit good
The one with glasses (i.e. a teacher) is coming, quickly get in your seats.

(14) ni kandao na jiahuo na zhang ma lian
you see that guy that CL horse face
Did you see that long face of that guy?

(15) bie ku le, dou ku cheng qinyu yan le
NEG cry PT all cry ASP goldfish eye ASP
'Don't cry, your eyes are all big and red.'

(16) ta ting le ting hubei
s/he stand ASP stand thick/strong back
'S/He straightened his/her back.'

Thus, in appearances do map from animals to humans in Chinese, but are restricted to cases of specific body parts of animals. The size or appearance of the entire animal cannot map to humans.

3.2 Behavior

Salient behaviors (or characteristics attributed to a certain behavior) of animals are also mapped from the source to the target domain, as shown in (17)-(20). For example, pigs are thought to be lazy and by extension, stupid. Monkeys are viewed as being very active, and by extension very naughty. Tigers are considered to be dangerous and fierce. Turtles, because they withdraw into their shells are timid and cowardly, and this meaning is specialized to refer to cuckold.

(17) Ni jen shi yi zhi zhu
you really be one CL pig
'You are really stupid.'

(18) Ta shi yi zhi xiao houzi, you tiaopi, you huopo.
S/he be one CL small monkey, also naughty, also active
'S/he is a little monkey, both naughty and active.'

(19) Ni bie gen na yi zhi laohu chuang tou, ni yiding hui shu le.
you don't with that one CL tiger hit head, you certainly will lose ASP
'Don't argue with that (fierce) guy, because you will definitely lose.'

(20) ni xinganqingyuan dang wugui, jiu bie dui ta you shenme yuanyen le.
you willing become cuckold, then don't to she have any complaints ASP
'Since you are willing to become a cuckold, don't complain to me about her anymore.'

In the cases (21)-(23) below, the noun is used in construction that forces a verbal interpretation (i.e. forces it to read as a stative verb). In the case of donkey and pig, the interpretation is that the animal (and therefore the person being referred to) is stupid, while the interpretation for 'turtle' (i.e. the monosyllabic form) means fastidious or bothersome.

(21) shao lu le hao bu hao?
less donkey ASP good not good
'Try being less stupid, OK?'

(22) ta hen gui, bie han ta zuo shi
 s/he very turtle, don't with s/he do business
 'S/he is very troublesome, don't work with her/him.'

(23) Ni hen zhu le, zheme xiao xiao de shi ye zuo bu hao
 you very pig PT this small small DE matter also do not good
 'You are really stupid, not being able to handle such a small matter.'

3.3 Image-schemas and accompanying inferences

We have found that in Chinese the appearance of a salient body part of an animals as well as the behavior of the animal can map to the target domain to indicate that the person thus referred to embodies either the physical or behavioral characteristics of that animal. Figure 2 below shows the image schemas that map.



Figure 2

Image schemas that map in the Animal Metaphor in Chinese

Mapping the image schema from the source to the target domain in Chinese is also not a meaning-neutral process. In all cases, it maps the feature of [-human]. So by looking like an animal or behaving like an animal one is behaving less like a human. The mapping of negativity is quite pronounced in most of the cases listed above which again is the result of most Chinese-speakers feeling that humans are *a priori* better than animals. There are at least two animals (the dragon and tiger), however, that embody characteristics that speakers of Mandarin Chinese view positively. The dragon usually embodies superhuman attributes (often reserved for emperors), as seen in the idiom *renzhongzhilong* 'A dragon among humans.' The tiger embodies fierceness as can be seen from the idiom *jiangminhuzhi* 'a worthy son of a hero.'

Thus, the mapping of negativity does not necessarily hold, and needs to be identified on a case by case basis. However, it can be argued that the mapping of -human does hold, because even though the traits that are mapped in the case of tiger and dragon are positive, they are also less like humans in the superhuman (i.e. better than human) sense.

4. METAPHOR TRANSLATION PRINCIPLES

We have demonstrated above that the Animal Metaphor exists in both Chinese and English. We also showed that the image-schematic mappings differ between the two languages.

In addition to the differences in image schema mappings, sometimes the information that the animal represents is different in the two languages. For example, Liu Tai-ying (Chairman of the China Development Corp) recently called George Soros, the international financier, a 'pig.' The English newspaper had to modify the quote with the information that 'a pig is the Mandarin equivalent of an idiot' (China News October 7, 1998). If they did not add this information, English readers would interpret the statement as Soros is a greedy person, as opposed to the intended meaning of a stupid person.

Thus, translating metaphors from one language into another can be complicated by 1) having no similar metaphor exist in the target language, 2) having the metaphor exist, but the mapping does not follow directly from one language to another. If the mapping does not follow directly there are (at least) three possible reasons for this: 1) the mapped instance has another meaning (as in the 'pig'

example above), 2) the mapping does not occur in the target language (i.e. animals sounds do not map to the appearance or behavior of the animal in Chinese as they do in English), 3) the mapping occurs but it is restricted in some way (i.e. appearance maps in Chinese but only body-parts, and not the whole body maps).

If the conceptual metaphor does not exist in the target language, then the translator has two choices, translate the metaphor literally and attach an explanation, or translate the meaning of the metaphor, ignoring the image-schematic mapping from the source to the target domain in the original language. The choice would depend on the audience and intent of the translation.

However, the choices expand when the conceptual metaphors exist in both languages. We offer the following principles for Conceptual Metaphor Translation in (24) below, and follow with examples.

(24) Conceptual Metaphor Translation Principles

If similar conceptual metaphors exist in two languages, L_1 and L_2 , translate the metaphor from L_1 to L_2 as follows:

- 1) If a similar image-schema mapping exists, and the information mapped is the same, then use an exact translation.
- 2) If a similar image-schema exists, but there is a different mapping for a particular instance in the target language, i) use an explanatory simile or ii) substitute with another instance in the target language that carries the same meaning (from the same conceptual metaphor).
- 3) If the image-schema mapping does not exist in L_2 , either i) translate directly with an attached explanation or ii) use an explanatory simile.

And example of Principle 1 is given below in (25).

(25a) He is a donkey. (Interpretation: He is stupid/stubborn.)

(25b) Ta shi yi tou luzi.

he is one CL donkey

'He is a donkey.' (interpretation: He is stupid/stubborn.)

In this example, 'donkey' has the same interpretation in both languages and can be translated directly in either direction.

Principle 2 gives the translator two choices in dealing with a mapping that does not exist in the target language. For example, 'cow' means 'fat' in English, but this information does not map in Chinese, because Chinese lacks an appearance image-schematic mapping for the whole body. Thus, option ii) is ruled out since no animal will imply 'large in size.' But option i) is possible, as shown in (26) below.

(26a) She's a cow.

(26b) Ta pang de xiang niu yiyang.

she fat DE like cow same

'She is as fat as a cow.'

The first option in Principle 2 can also deal with the appearance mappings from Chinese to English. If one wants to point out that a person has a horse face, one can do so with the appearance mapping in Chinese, but would need to use a simile to handle the mapping in English, as in 'He has a face like a horse.'

However, option ii) is a possibility when there is a possible substitution, as shown in (27) below.

(27a) Taiwan shi yazhou si xiaolong

Taiwan is Asian four dragon

'Taiwan is one of the Asian Tigers.'

(27b) Taiwan is one of the four Asian Tigers.

In the above example we see that concept of 'dragon' as being a powerful animal (one related to the emperor) does not map to English. Dragons in English are fierce and evil creatures. In this case, a different animal that represents the meaning of 'powerful' can be substituted.

An example of Principle 3 can be found in the case of the image-schema mapping of animal sounds, which exists in English, but not in Chinese. For example, if one needs to translate one character saying 'Oink-oink' to another character to indicate revulsion at his greediness in eating, the following two examples (28a & b) are possible translations in Chinese.

(28a) Zhangsan chaozhi ta <gok, gok>, shuo ta chi de xiang zhu yiyang.
Zhangsan towards s/he <gok, gok> say s/he eat DE similar pig same
'Zhangsan oinked at her, (indicating) s/he eats like a pig.'

(28b) Zhangsan shuo ni zhen xiang zhu.
Zhangsan say you really like pig
'Zhangsan says you are just like a pig (i.e. greedy).'

The first example is an instance of a direct translation with an attached explanation and the second example is an explanatory simile.

In this section, we have laid out the principles for translating metaphors. We believe, that although translation is a difficult task, and that translation of metaphors is an even more difficult task, by analyzing the conceptual metaphor systems in the source and target languages will, and by applying the principles given above, the difficulties should be surmountable for the large majority of cases.

5. CONCLUSION

In sum, in this paper we have shown that the HUMANS ARE UNDERSTOOD AS ANIMAL metaphor exists in two languages, English and Chinese. The image-schemas that are mapped in both languages are appearances and behaviors. In Chinese, the appearance mapping is restricted to body parts of animals. In addition, the image-schema of animal sounds maps in English, but not in Chinese.

We have also laid out three principles for translation of conceptual metaphors. We hope that these principles will generate discussion as to the best way to deal with conceptual metaphors in translation. When a set of principles has been tested on a range of cross-linguistic conceptual metaphors, and when similar conceptual metaphors have been more extensively analyzed in a variety of languages, then it will be possible to create algorithms for machine translation.

In conclusion, the analysis the specific image-schemas that are relevant to a conceptual metaphor 1) will allow us to be more precise in determining the schematicity level of the metaphor, 2) will allow us to better understand the types of image-schemas that are universal to the human conceptual system, and 3) will allow us to formulate heuristics for language translation purposes.

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