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ABSTRACT

Cognitive semantic studies have shown that our conceptualization of morality is at least partially metaphorical and that our moral cognition is grounded in some fundamental contrastive categories of our embodied experience in the physical environment. It is argued that our moral cognition is built on a moral metaphor system. Within the framework of conceptual metaphor theory, this study aims to examine the spatial subsystem of moral metaphors in English. We set out with five pairs of moral metaphors that involve the following spatial source concepts: HIGH and LOW, UPRIGHT and TILTED, LEVEL and UNLEVEL, STRAIGHT and CROOKED, and BIG and SMALL. These metaphors were found to constitute the spatial subsystem of moral metaphors in Chinese. Our primary goal is to find out if the five pairs of moral–spatial metaphors are manifested in English as well. To that end we collected linguistic data from the Corpus of Contemporary American English and searched Google Images for multimodal evidence. Our finding is that the five pairs of moral–spatial metaphors are applicable in English as they are in Chinese. We also discuss issues related to conceptual metaphor theory.

This is a cognitive semantic study of spatial metaphors for morality in the tradition of conceptual metaphor theory (CMT; e.g., Fusaroli & Morgagni, 2013; Gibbs, 1994, 2014; Kövecses, 2005, 2010, 2015; Lakoff, 1993; Lakoff & Johnson, 1999, 2003). Morality, which regulates social behavior for public wellbeing, is an important aspect of social cognition. Cognitive linguists have long claimed that morality, an abstract concept in human ethics, is structured and represented at least partially in metaphorical terms, and that moral metaphors shape our "moral imagination" and hence the embodied nature of our moral cognition (e.g., Johnson, 1993, 2014; Lakoff, 2002; Lakoff & Johnson, 1999, ch. 14; see also; Gibbs, 2006). It has been found that our moral cognition is fundamentally grounded in some common contrastive categories of our embodied experience in the physical environment: for example, healthy and sick, strong and weak, light and dark, clean and dirty, pure and polluted, and high and low (Johnson, 1993; Kövecses, 2005, 2010; Lakoff & Johnson, 1999, ch. 14). More recently, CMT also motivated a growing body of studies in psychology, especially social psychology, which apply predominantly experimental methods to the investigation of possible roles of conceptual metaphors in social cognition in general (e.g., Landau, Meier, & Keefer, 2010; Landau, Robinson, & Meier, 2014; Meier & Robinson, 2004; Schubert, 2005; Williams & Bargh, 2008a, 2008b, William, Huang, & Bargh, 2009) or in moral cognition in particular (e.g., Brandt & Reyna, 2011; Lee & Schwarz, 2010; Lizardo, 2012; Meier, Robinson, & Clore, 2004; Meier, Sellbom, & Wygant, 2007; Schnall, Benton, & Harvey, 2008; Sherman & Clore, 2009; Zhong & House, 2014; Zhong & Liljenquist, 2006).

Following the line of research on the metaphorical character of moral cognition, our primary goal for this study is to outline the linguistic patterns in English that supposedly manifest and, in turn,

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reinforce the underlying spatial subsystem of moral metaphors. In this metaphor subsystem, spatial concepts are utilized as source concepts mapped onto MORAL and IMMORAL as their target concepts. In the literature of cognitive sciences, spatial concepts have been shown to play crucial roles in abstract thought and reason, and it is argued that abstract cognition is built on spatial cognition (e.g., Casasanto, 2010; Gattis, 2001; Lakoff, 1993; Lakoff & Johnson, 1999, 2003; Tversky, 2011). It is therefore not surprising that spatial concepts play a major role in moral cognition. According to CMT, that role is played via metaphor. For this study, our focus is on the linguistic patterns as evidence for the spatial conceptualization of morality in English. In fact, this study is part of a larger effort to detect the moral metaphor system at the conceptual level through systematic analyses of linguistic evidence. While linguistic evidence alone cannot prove the existence of conceptual metaphors (see, e.g., Casasanto, 2009; Casasanto & Bottini, 2014; Gibbs, 2011, 2014), linguistic studies are nonetheless essential first steps toward discovering and delineating conceptual patterns in our conceptual system. This is because language provides a window on the mind even though the view through it is somewhat limited. Systematic analysis of linguistic patterns, within or across language boundaries, can serve as a reference point or frame for scientific studies of the mind in the neighboring fields.

As the object of our study, the moral metaphor system appears to be quite complex, consisting of subsystems with each of them comprising a cluster of conceptual metaphors. In order to gain a better understanding of the structure and composition of this metaphor system, research is carried on in Chinese and English in a parallel fashion, so as to take on a cross-linguistic and cross-cultural perspective, which, ideally, will lead to implications on the issues of universal tendencies, cognitive or linguistic, as well as cultural variations (Kövecses, 2005). To that end, two linguistic corpora are utilized for data collection: the Center for Chinese Linguistics (CCL) Corpus at Beijing University, and the Corpus of Contemporary American English (COCA) at Brigham Young University.

Two initial studies (Yu, 2015, 2016) have been conducted preceding this study on the spatial subsystem of moral metaphors in English. The first study (Yu, 2015) looks at the visual subsystem of moral metaphors in Chinese and English. Table 1 lists the source concepts in five pairs for the contrast in valence between MORAL and IMMORAL as their target concepts, along with the corresponding conceptual metaphors studied. It is found that these five pairs of conceptual metaphors are manifested in both Chinese and English.

The second study (Yu, 2016) focuses on Chinese and its spatial subsystem of moral metaphors. Again, five pairs of spatial concepts are the sources mapped onto MORAL and IMMORAL as their target concepts, as listed in Table 2 together with the corresponding conceptual metaphors forming this subsystem.

Table 1. The visual subsystem of moral metaphors (Yu, 2015).

Targets	MORAL	IMMORAL	Conceptual metaphors	
Sources	WHITE	BLACK	"MORAL IS WHITE"	"IMMORAL IS BLACK"
	LIGHT	DARK	"MORAL IS LIGHT"	"IMMORAL IS DARK"
	CLEAR	MURKY	"MORAL IS CLEAR"	"IMMORAL IS MURKY"
	CLEAN	DIRTY	"MORAL IS CLEAN"	"IMMORAL IS DIRTY"
	PURE	IMPURE	"MORAL IS PURE"	"IMMORAL IS IMPURE"

Table 2. The spatial subsystem of moral metaphors (Yu, 2016).

Targets	MORAL	IMMORAL	Conceptual metaphors	
Sources	HIGH	LOW	"MORAL IS HIGH"	"IMMORAL IS LOW"
	UPRIGHT	TILTED	"MORAL IS UPRIGHT"	"IMMORAL IS TILTED"
	LEVEL	UNLEVEL	"MORAL IS LEVEL"	"IMMORAL IS UNLEVEL"
	STRAIGHT	CROOKED	"MORAL IS STRAIGHT"	"IMMORAL IS CROOKED"
	BIG	SMALL	"MORAL IS BIG"	"IMMORAL IS SMALL"
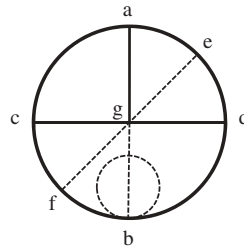
Figure 1. Schematic configuration of spatial concepts for moral metaphors (from Yu, 2016).

Yu (2016) unified the spatial source concepts, both orientational and dimensional ones, into a single schematic configuration as represented in Figure 1. The figure is meant to illustrate the image schemas of the spatial concepts involved, namely UP-DOWN, BALANCE, PATH, and OBJECT, and how they are related to one another in a system. As in this figure, the dotted lines represent IMMORALITY versus MORALITY represented by the solid lines.

Specifically, one vertical line (ab) and one horizontal line (cd) cross each other at point (g) forming a perpendicular relation between them. A third slanted line (ef) also runs through point (g). The vertical line is divided by the horizontal line into the upper and lower halves, respectively represented by the solid and dotted portions. Its upper half (ag) is mapped onto the positive valence MORAL, i.e., "MORAL IS HIGH," in contrast with its lower half (gb), which is inherently negative (i.e., "IMMORAL IS LOW"). Also, there is a contrast in valence between line (ag) and line (eg): the former is positive because it is upright, hence "MORAL IS UPRIGHT," whereas the latter, which is tilted or slanted, is negative, namely "IMMORAL IS TILTED."

As for the horizontal line (cd), it is also mapped positively onto MORALITY because it is level, i.e., "MORAL IS LEVEL," in contrast with the unlevel line (ef) or (cge), which is negative (i.e., "IMMORAL IS UNLEVEL"). "LEVEL" here refers to a horizontal line "that is straight and has both ends at the same height." According to this criterion, line (ef) is not level because it is inclined to one side, forming a slope down toward the left. Line (cge) is not level either, because it is not straight, with a bend at point (g), and its two ends are not at the same height.

In fact, any single line that is bent, for instance, line (bge) or (bgf), is mapped negatively onto IMMORALITY (i.e., "IMMORAL IS CROOKED"), in contrast in valence with a straight line (i.e., "MORAL IS STRAIGHT"). Note that "STRAIGHT" here has to meet two relevant criteria: (a) not bent and (b) level or upright. With criterion (a), a straight line is simply the shortest distance between two points. Criterion (b), however, is dependent on the environment in which a straight line is situated. In Figure 1, lines (ag) and (cgd) are straight because these two are upright and level respectively. In contrast, line (ef) is not straight because it is neither upright nor level. Line (gb) is not straight either since it is "downright," not upright. Finally, the two circles display one valence contrast in size mapped onto MORALITY and IMMORALITY: "MORAL IS BIG" and "IMMORAL IS SMALL." As can be seen here, there is correlation between height and size: the longer the vertical axis (diameter), the larger the size of the circle.

Parallel to Yu's study (2016) on Chinese outlined above, we turn to English for this study and examine its moral–spatial metaphor subsystem. We want to see if the five pairs of conceptual metaphors in Table 2, which were formulated on the basis of a linguistic study of Chinese, are applicable in English as well. We know from previous studies in the literature that some of them are common moral metaphors in English, but what about the others? We look at them as forming a moral–spatial metaphor subsystem with its components related to one another in a conceptual network as illustrated in Figure 1. In the next section, we lay out the linguistic data collected from COCA, with which we hope to show that the five pairs of conceptual metaphors are indeed manifested in the English language as are in Chinese. We also look at some visual or multimodal evidence in this section. In the third section we take a deeper look into the possible structure and composition of the example conceptual metaphors by utilizing an analytical

instrument, a decompositional approach to metaphorical compound analysis (DAMCA). We draw a brief conclusion in the fourth section.

Data analysis: Linguistic and multimodal

In this section we cite some examples out of the linguistic data collected from COCA that appear to be consistent with the five pairs of conceptual metaphors in Table 2. After that, we also analyze a few visual or multimodal examples that can be seen as instantiating the conceptual metaphors in modes that are not just verbal.

"MORAL IS HIGH" and "IMMORAL IS LOW"

Spatial metaphors in terms of vertical dimension are very salient ones in understanding morality. In this case, spatial height is mapped onto "moral height." "Moral height," however, can evoke two differing images. In the first one, an entity, be it an agent or anything associated with it (same below), is evaluated in terms of its "moral position" being either "high" or "low." If it takes a "high" location, the entity is moral; in contrast, an entity that takes a "low" position is immoral. In the second image, an entity itself is measured in terms of its "moral stature." It can "rise to a great height" with a "high stature" in contrast to an entity that "stays low" with a "low stature." There is strong asymmetry with vertical space in the physical world, created and defined by gravity, which makes it more difficult to go up than to go down. This fundamental physical law finds its way, via metaphorical extension, into our understanding of morality: it takes much more effort to be moral than to be immoral. In real-life discourses, the pair of moral metaphors, "MORAL IS HIGH" and "IMMORAL IS LOW," can be instantiated by varied linguistic expressions. Given in (1) are some examples:

(1) a. Wilson, earlier in his column, unctuously proclaims that he and *The Chronicle* "take no **moral high ground** here" (on the issue of publishing tobacco ads). It is clear to this reader that he and his newspaper do not take the **moral low ground**, either—or, for that matter any moral ground whatsoever.

    b. I need to mention another mark of Molly's mind: in her anger, she sits in judgment on Mort. It is as though she **looks down** from a **moral height** on his blameworthiness.

    c. For an administration that claims to take the **moral high road**, this is starkly inhumane, not to mention completely contrary to the principles of liberty and justice on which this country was founded.

    d. Head coaches are supposed to live up to their **high-flown moral code**.

"Moral high ground" refers to the stance of being or "looking" morally right, whereas "moral low ground" is its opposite and suggests being morally wrong (1a). The disparity in morality is expressed in terms of different vertical positions. Thus, "claiming the moral high ground" for herself, Molly would "look down" upon Mort from "a moral height" (1b). "Moral high road" refers to a morally superior approach toward things (1c). So, if people take the moral high road, they do things in a way that is morally right. Besides, those who "ride the moral high horse" believe that they are morally superior to others. When they are asked to "get off their moral high horse," it means that they should stop behaving in a morally superior manner. Moral codes are "high-flown," and because they are "high" in space, it takes more strength and energy to "live up" to them (1d).

In English, some other words or idioms have an original sense of spatial highness, but are often used in a moral sense, like *lofty, sublime, aboveboard, on the up and up*. Given in (2) are two examples.

(2) a. The regime's unfulfilled plans for fair redistribution of wealth and care of the disinherited have severely undermined its **lofty** moral claims.

    b. Rather than believing that Jesus was a supernatural being, liberal Christians see him as a **sublime** moral teacher whose example they seek to follow through a lifetime of service—often directed primarily at the poor.

The word *lofty*, which means "rising to a great height" in a spatial sense (e.g., *lofty* mountains), also means "noble" in a moral sense (2a). "Lofty moral claims" can mean either "claims made on a moral high ground" or "claims that reach a great moral height." The word *sublime* means "to or in a high position" in

its spatial sense, but it is extended to a moral sense "of outstanding moral worth" (2b). There is no doubt that the words like *lofty* and *sublime* express a positive valence that is not limited to morality. The relevant point here is that, when they are used in a moral sense, they instantiate "MORAL IS HIGH."

The antonym of *high* is *low*, which, in its moral sense, means "violating standards of morality or decency," and shares this meaning with its synonym *base*. These words often instantiate "IMMORAL IS LOW."

(3) a. ... there's only two ways to run for reelection in America. There's the **high road** and the **low road**.
b. Politics is such a **dirty low down** business now, I give up hope on it.
c. How could I be so ruthless, so **base**, after all she had done for me?
d. Indeed, an unfettered market can take on a life of its own and set its own **moral baseline**. The market will generate its own morality by default.

Example (3a) is about politicians running for reelection in American politics. There are only two approaches characterized as either "high" or "low" for a positive or negative campaign. From its following context left out here, we can see that candidates would talk about their own accomplishments during their tenure on the "high road," but be bent on attacking their opponents on the "low road" simply because they have no achievement to talk about. Example (3b) is another instance on "moral politics" (Lakoff, 2002). In this case, politics has become "dirty" and "low down" in their "immoral" senses. This example simultaneously instantiates two moral metaphors: "IMMORAL IS DIRTY" (see Yu, 2015) and "IMMORAL IS LOW." In (3c) the word *base* originally means "low in place or position," but also means "devoid of honor or morality" in its moral sense. In (3d), morality has its "baseline"; whatever goes below it is in the space of immorality.

As seen above, the difference between morality and immorality is that between two locations, or two entities, with different heights, along a vertical dimension in space. It follows that the change of a moral agent, either positive or negative, would be its vertical motion between a "high" and a "low" plane, as shown below.

(4) a. ... we can be–**rise above** the evil in the world.
b. Unanimity would be hard, but it would be the only way to ensure that this Commission could **rise above** partisanship, **above** the rotten state of our politics.
c. ... many married Protestant ministers have subsequently **fallen from** grace over sexual misdeeds.
d. The tainted president **fell into** disgrace after his son became ensnared in a corruption scandal, ...
e. ... the bibliomaniac appears as a decadent, not only for having **fallen into** a state of physical and moral decay ...

Together, the examples in (4) show that positive and negative change in moral state is respectively "rise" and "fall" in vertical space. Here "rise" can refer to an entity either moving up to a higher location or growing/standing up to a greater height. On the other hand, "fall" can also refer to an entity either dropping freely from a higher location (e.g., *The clock fell off the shelf.*) or going down from the upstanding position (e.g., *He fell to the ground.*). Given the direction of gravity, it would always take much more energy and strength to "rise" than to "fall." Moral change as vertical motion, upward and downward, is also represented by some other collocations, where the head element, though a noun, comes from a verb through derivation or conversion: e.g., *moral lift, moral uplift, moral upbringing, moral elevation, moral sink, moral lapse, moral debasement, moral decline, moral breakdown, moral collapse.*

"MORAL IS UPRIGHT" and "IMMORAL IS TILTED"

This pair of moral–spatial metaphors is different from the preceding one in that it refers to the "moral posture" of an entity whereas the preceding one mainly refers to the "moral position" or "moral stature" of an entity. Nevertheless, the two of them appear to be coherent with each other, especially on the positive side. An "upright" entity reaches the greatest "moral height" possible. In contrast, an entity "tilted" to one side fails to reach the same "moral highness" or to keep its "moral balance," and is in danger of a "moral fall." For this pair of metaphors the prototypical lexical items involved are *upright* and *upstanding*, with lexicalized moral senses such as "honest," "fair," and

"responsible." Others acquire their moral meaning in contexts by being related to them as their synonyms or antonyms, distributed around them in the same semantic frame.

(5) a. Narrators described themselves and their immigrant parents as essentially **morally upright**, selfless, hard-working, thrifty, and responsible people.
b. Mrs. Dole got her biggest applause from the audience when she described her husband as **morally upstanding** and patriotic.
c. I'm innocent, **straight up**. I was framed.

It can be presumed that the moral senses of these expressions derived from our fundamental embodied experience: the upright, upstanding, and straight-up posture of the human body is associated with strength, self-control, and balance, which are important aspects of morality in moral metaphors.

(6) a. And the BBC is under fire from British and Israeli governments for allegedly **slanted** news coverage.
b. But it used to be that the liberal press just **tilted** coverage ignoring stories that reflected positively on conservatives and Republicans and hyping stories that help Democrats and liberals.
c. Told in Heller's brawny and jagged prose, Stegner navigates his own **askew** moral compass and what it means to create as well as destroy.

The examples in (6) instantiate "IMMORAL IS TILTED." Both (6a) and (6b) comment on media coverage that is perceived as being biased, partial, or unfair. When something is "slanted" or "tilted," it has lost its "balance" and is prone to "fall." In (6c) the person's "moral compass" is "askew"; being so his moral principles are distorted and not right.

"MORAL IS LEVEL" and "IMMORAL IS UNLEVEL"

This pair of moral–spatial metaphors is related to the preceding one in that LEVEL and UPRIGHT are mutually defining for a prototype of perpendicular relationship. In this case, the target of the moral metaphors is a state conceptualized as a "location." When it is a "moral-level" location, it is equal and fair to all the people in that location. Conversely, an "immoral-unlevel" location is unequal or unfair to the people therein. The main English lexical items that instantiate "MORAL IS LEVEL" are *level* and *even*, which both mean "unvarying in height" in their spatial sense but are also used in a moral sense meaning "equal" or "fair." Another word *square*, which denotes a prototypical shape on a two-dimensional plane, can be seen as relevant to both vertical (upright) and horizontal (level) metaphors.

(7) a. The core is the American people do not think the system is fair or **on the level**.
b. The school head in a free education system should not only supervise the teachers, but also see to the **even and fair** distribution of books, pencils, chairs and other materials …
c. That's my excuse but, hey, he beat me **fair and square**.

If something is "on the level" (7a) or on an "even" surface (7b), it should be fair to all involved. The English word *evenhanded* has the moral meaning of "fair" and "impartial" as well. In (7c) the shape of "square," which has four "equal" sides and four "right" angles, represents the concepts of being "fair" and "just."

(8) a. … no, it's not about a **level playing field**, it's now about **a field that's gotten tilted** and they really stood up for the big financial institutions when the big financial institutions are just hammering middle class American families.
b. This is the myth that we are all middle class, **playing on a level field**, and it has a special salience in America.
c. So anything going on in the inner city is the inevitable result of an **unlevel playing field**, and until it's **level**, things will stay just as they are.
d. For example, electrical energy has **leveled** much of what was formerly a decidedly **unlevel playing field** for women.

As illustrated in (8), the LEVEL and UNLEVEL metaphors are often realized in the context of sports, where the field on which games like football are played should be, ideally, level. A playing

field tilted to one side is not fair to both sides of the game. "Fair play" would not be achieved unless the field is "leveled" (8d).

"MORAL IS STRAIGHT" and "IMMORAL IS CROOKED"

This pair of metaphors is also closely related to the preceding two, and STRAIGHT here can be either vertical (cf. UPRIGHT) or horizontal (cf. LEVEL) in orientation. In this case, "straight" or "crooked" can refer to either the "moral posture" of an entity or the "moral path" along which the entity moves.

(9) a. We have before us a commander-in-chief who remembers the Boy Scout Oath—to do his best, "to help other people at all times," to keep himself "physically strong, mentally awake, and **morally straight**."
b. "It's helped me **straighten out** my life a bit," he said. "Boxing has kept me **on the straight and steady path**. If it wasn't for boxing I'd probably be in jail now, or worse."
c. A good woman and a steady job had him **on the straight and narrow**.

We can assume that "morally straight" (9a) is oriented parallel to the vertical posture of the body that is "physically strong." This example contrasts with (9b) and (9c), which evoke schematically horizontal "straight" lines (see also Cienki, 1998; Jäkel, 2002). In (9c), the idiomatic expression *on the straight and narrow* refers to a way of proper conduct and moral integrity. Admittedly, an honest and morally acceptable way of living is by no means an easy life path. In fact, it is the opposite. A real-life example is that the police ask possible drunk drivers to walk a "straight and narrow" line as an "embodied" test. It is worth noting that, according to Oxford English Dictionary, "straight" in this idiom is a misinterpretation of "strait" in its original biblical source. We could hypothesize that this happened as a result of the pulling force of the relevant STRAIGHT metaphor. For whatever reason, once the misinterpretation took place, the linguistic expression reinforces the conceptual metaphor underlying it. The examples in (10) instantiate "IMMORAL IS CROOKED."

(10) a. "We've just been led down a **crooked path**," he remarked.
b. Many people claim they aren't turned on by politics, that all politicians are **crooks**.
c. … three more bullies were bent on becoming rich **by hook or by crook**.
d. What a **twisted way** to justify corporate greed!

"A crooked path" (10a) is not a moral path of life (see also Cienki, 1998; Jäkel, 2002). This example instantiates both "LIFE IS A JOURNEY" and "IMMORAL IS CROOKED." Example (10b) involves a nominal use of *crook*. "Crooks" are people who are not "morally straight." The idiom *by hook or by crook* means "by fair means or foul," that is, to accomplish a goal by all means regardless of whether they are moral or immoral (10c). We can imagine that "a twisted way" is even worse (10d).

(11) a. … the Conservative government **bent** the rules to allow him to acquire the Times and Sunday Times.
b. Reagan was the villain of the period, **bent** as he was on blowing up the earth.
c. Have we now **stooped so low** as to throwing blame at people who try to help?
d. In his case, he had been given chances to **straighten himself up** and he just couldn't handle it.

In (11a), an agent could "bend" something so that it is no longer "morally straight." Rules "bent" to meet the interests of individuals or groups are not fair to the general public. In (11b) and (11c), the agents have "bent" and "stooped" their own bodies so much that they are no longer "morally upright." For them to become moral again, they must "reform" themselves by "straightening themselves up" (11d). Apparently, these examples are grounded in our bodily experience.

"MORAL IS BIG" and "IMMORAL IS SMALL"

The last pair of moral–spatial metaphors is the one concerning size, with large size representing positive valence in contrast with small size for negative valence. Again, size as a source domain in space is mapped onto a range of abstract target domains, morality being merely one of them (see,

e.g., Crawford, 2009; Meier, Robinson, & Caven, 2008). It refers to the size of a moral entity. As already noted, size is generally consistent with height.

(12) a. He was a very, very charitable man and with a really **big** heart.
    b. What evidence is there, pro or con, with which to weigh the movement's **grand** moral claims?
    c. He's just a—truly **a great human being**. And I think we should all use him as an example, and the world would just be a much nicer place if there was a lot more David Harpers around.
    d. "He's **a great human being** and an exceptionally moral man," Meiklejohn said.

In (12a) "he" is a charitable man, and because of that he can be called a man with "a big heart," which refers to his moral character. The word *big* here means "magnanimous" or "generous" in a moral sense. In (12b) the "claims" are moral, and for that reason they are "grand" as well. We can assume that an immoral claim cannot be called "grand" since *grand* means "lofty" and "sublime" in its moral sense (cf. 2a and 2b). In (12c), David Harper is called "a great human being" because, as we learned from the context of this example, he donated one of his kidneys to a five-year-old child to save her life. The word *great*, which primarily means "notably large in size," also has a moral sense of "markedly superior in character or quality" or "noble." In our data pool, *great* and *moral* go together in collocations. Thus, for instance, a moral person is one with a "great moral character" who has a "great moral purpose" and acts with a "great moral force." In (12d), the person is a "great" human being because he is, before anything else, "an exceptionally moral man."

In contrast with the examples in (12), those in (13) involve three "small" words: *small, petty*, and *little*. The people or things they describe are immoral in nature.

(13) a. Undaunted by minor flaws and **small minds**, Molly O pressed on.
    b. "I'm being **petty and small-hearted**, aren't I?" she asks, completely insincere.
    c. What they do with that, if their **sick little mind** decides to go out and shoot somebody—what are you going to do about it?
    d. Smith has fairly presented the **small human being** who nonetheless lived a **grand life** and achieved **great things**; and she has delivered a grand understanding and a resonant appreciation for the paradox and the incandescence that was William S. Paley.

Example (13a) contains the collocation "small minds." A "small-minded" person indulges in "small-minded" conducts and is typically marked by pettiness, narrowness, and meanness. In our data pool, we also found other collocations involving "small" in its "immoral" sense such as *small act of hypocrisy* and *small acts of terrorism*. It is worth noting that there are entirely different readings of the collocation "small act(s)." For the "immoral" reading discussed here, for example, any "act of terrorism" per se cannot be "small," but instead the person who conducts the act is "small" in the sense of "immoral" or "evil." Apart from this "immoral" reading there is also a "modest" reading (e.g., *a small act of kindness*), where "small" refers to the act itself being "unimportant" or "inconsequential." Example (13b) involves both *petty* and *small*. While *small* means "morally mean, ungenerous, petty, paltry," *petty* also has a moral sense of "showing or having a mean narrow-minded attitude." Other than *petty and small, petty* occurs in a number of other collocations that have moral implications (e.g., *petty and selfish, petty and mean, petty and corrupt, petty and jealous, petty and unfair, petty and narrow-minded*). In (13c) there is a collocation "sick little mind," in which *little* means "mean, paltry, contemptible." We have found *little* in other collocations with an "immoral" sense (e.g., *evil little thing, dirty little secrets, evil little people, evil little beast, evil little cockroach*).

Finally, (13d) is about William S. Paley (1901–1990), the chief executive who built the Columbia Broadcasting System (CBS) into one of the foremost media networks in the United States (Wikipedia). As highlighted in bold in (13d), he was characterized as "the *small* human being who nonetheless lived a *grand* life and achieved *great* things." Such characterization is indeed a "paradox" as suggested in the example, but makes good sense because Paley is known both as "a notorious ladies' man" and as a magnanimous philanthropist during his life (Wikipedia). That is, there was at the same time a "small" side and a "grand" and "great" side to his moral character.

Visual or multimodal evidence

In the preceding subsections, we presented the linguistic evidence that points to the existence of conceptual metaphors underlying it. While this is a linguistic study focusing on discovering linguistic patterns that may reflect, as well as reinforce, underlying conceptual patterns, we also looked at the possibility of the conceptual metaphors under study being manifested through a mode other than the verbal. To that end we searched Google Images (https://images.google.com) for relevant examples. In this subsection, we reinforce our linguistic findings presented above with additional evidence from the area of study of multimodal metaphor (see, e.g., Forceville & Renckens, 2013; Forceville & Urios-Aparisi, 2009). Our goal here, therefore, is not to provide a comprehensive analysis of multimodal evidence for the conceptual metaphors, but instead simply to show the possibility of looking at the

| (a) | (b) | (c) | (d) |

| (e) | (f) | (g) |
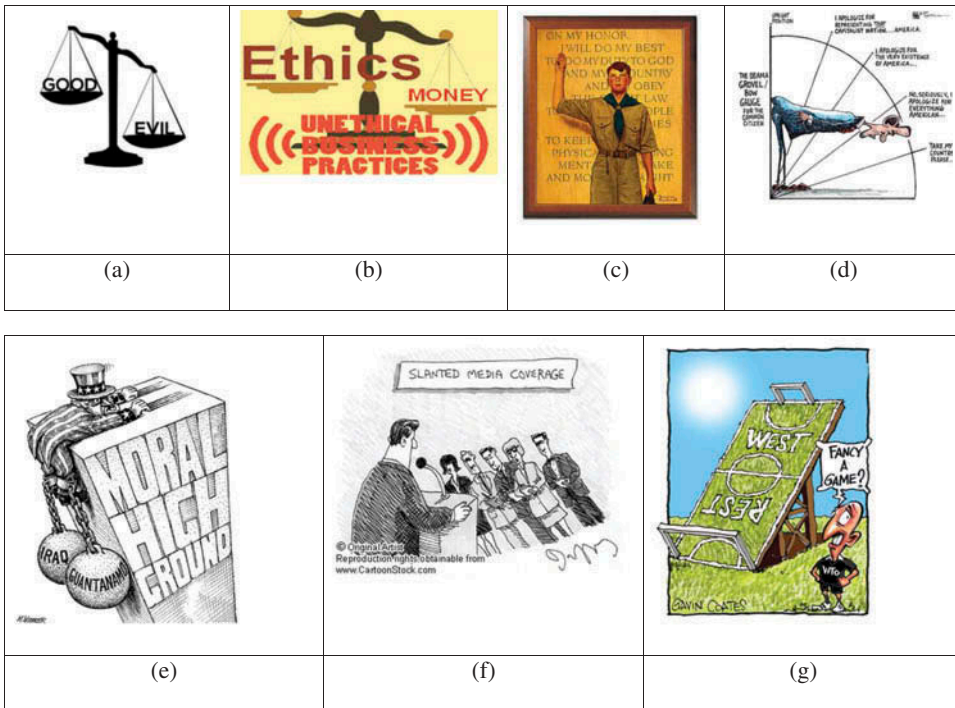
issue from a different viewpoint. In what follows, we briefly describe and analyze seven images (a–g) (their original online sources are provided in the Appendix) to show how these examples can serve as visual or multimodal evidence for the moral–spatial metaphors under study.

Images (a) and (b) both figure scales, "moral scales" that weigh "GOOD" or "Ethics" on the left versus "EVIL" or "Money" on the right. Image (b) includes a caption "UNETHICAL BUSINESS PRACTICES." In both cases, the two arms of the scales are "unlevel," tilted toward the right, with "GOOD" and "Ethics" being "higher" in space than "EVIL" and "Money," indicating that "moral balance" is lost. In (b) "Ethics" looks much "larger" than "Money." Both images are visual and multimodal instantiations of "MORAL IS LEVEL" and "IMMORAL IS UNLEVEL," and "MORAL IS HIGH" and "IMMORAL IS LOW." In (b), furthermore, the word "Ethics" is represented in a much larger font size than is "Money," which is a metonymy for unethical business practices. This is a visual instantiation of "MORAL IS BIG" and "IMMORAL IS SMALL" (see, e.g., Meier et al., 2008). It is worth noting that in both art clips the fact that the good side is "outweighed" by the bad side

(which only suggests the loss of "moral balance") is no evidence against our point that they visually instantiate "MORAL IS HIGH" and "IMMORAL IS LOW." It is because the bad side is "heavier" than the good side that the former should "stay lower" than the latter, and vice versa. It is interesting to see that in (b) "Ethics" is much bigger and therefore should "carry more weight" than "Money," but it is still "outweighed" by, and "stays higher" than, "Money." This is actually consistent with the observation that there is asymmetry between MORAL and IMMORAL as target concepts for moral metaphors grounded in our real-life experience. Thus, for instance, it is easier to make something white black, or something clean dirty, than the other way around (see Yu, 2015). It is more difficult to go up than to go down, to be upright than tilted, and there is only one way to be straight but indefinite number of ways to be crooked (see Yu, 2016 and above). Moreover, just to mention in passing, a search for "moral compass" in Google Images brought up a large collection of images of "moral compass." Almost all of them have "GOOD" on the "high" side in contrast with "BAD/EVIL" on the "low" side.

Images (c) and (d) bring together a sharp contrast in body posture. In the former, which looks like a photo frame, a Boy Scout is taking the Boy Scout Oath, which is displayed verbally on the background (cf. 9a). He is standing "upright," his right arm extending "level" to the right, forming a "right" angle with the forearm that rises "straight up" in parallel with his body and head. The image of the Boy Scout figure is a physical embodiment of its oath to keep oneself "physically strong, mentally awake, and *morally straight.*" Image (d), a cartoon caricature, has the main caption "The Obama Grovel/Bow Gauge." It shows Obama "stooping so low" in a bow (cf. 11c). The background gauge is a 90 degree right angle divided by four other lines in between the "upright" and the "level" lines. The captions at the top end of each line beyond the curve say the following from the "highest" to the "lowest" position, respectively: (1) "Upright position"; (2) "I apologize for that capitalist nation … America"; (3) "I apologize for the very existence of America …"; (4) "No, seriously, I apologize for everything American …"; and (5) "Take my country, please …." With his "stooping so low" posture, Obama's head is positioned between (4) and (5). This caricature apparently conveys a right-wing conservative message that President Obama is sacrificing the national interests of the United States, which is of course perceived as "morally weak" according to the political view of the cartoonist. It can be argued, for our purpose, that images (c) and (d) multimodally manifest at least two pairs of moral metaphors: "MORAL IS UPRIGHT" and "IMMORAL IS TILTED"; "MORAL IS STRAIGHT," and "IMMORAL IS CROOKED." That is, the moral character, strong or weak, is "embodied" by the body posture in both images.

In image (e), Uncle Sam is clinging to the top of a skyscraper that appears tilted and that has "MORAL HIGH GROUND" written on it (cf. 1a and 1b), but he is being pulled down by the heavy loads of two large metal balls chained to the shackles on his feet. "IRAQ" and "GUANTANAMO" are written on the two metal balls. This image multimodally instantiates two pairs of moral metaphors: "MORAL IS HIGH" and "IMMORAL IS LOW"; "MORAL IS UPRIGHT" and "IMMORAL IS TILTED."

Image (f) shows a politician speaking behind a podium with a row of reporters standing in front of him holding pens and notebooks or recorders. Instead of standing "upright" in balance, the reporters all stand "tilted" or "slanted" toward their right at an angle of about 45 degrees. The caption of the cartoon says, "SLANTED MEDIA COVERAGE" (cf. 6a and 6b). That is, the biased or unfair coverage of the media is visually represented by the "slanted" body posture of those reporters. In other words, the loss of physical or bodily balance is a metaphor for bias, partiality, and unfairness as a result of the loss of "ethical balance." The cartoon appears to be a multimodal instantiation of "MORAL IS UPRIGHT" and "IMMORAL IS TILTED."

The last image, (g), shows an "unlevel playing field" of football or soccer (cf. 8a–d). The side of the "WEST" is elevated so high that the whole field forms a steep slope at an angle of over 50 degree. The lower side of the field is the "REST" of the world. The latter's disadvantage is multiplied by the fact that, while the goal of the "WEST" appears to be a normal one, that of the "REST" side is exceptionally large, the distance between its two posts being almost the width of the playing field. A referee-looking person standing by the side of the field has "WTO" printed on his jersey. He is thinking loud to himself: "FANCY A GAME?" The message apparently is that the WTO (i.e., the

World Trade Organization), designs "unfair" competition (on an "unlevel playing field") with game rules "tilted" in favor of the West against the rest of the world. The conceptual metaphors manifested multimodally here are "MORAL IS LEVEL" and "IMMORAL IS UNLEVEL."

In sum, our analysis of the visual and multimodal evidence from the seven images in this subsection reinforces our analysis of the linguistic data in the preceding subsections. In fact, the linguistic examples and the visual and multimodal examples, to a notable extent, mirror and reinforce each other. That is, the five pairs of conceptual metaphors as a cluster also seem to constitute the spatial subsystem of moral metaphors in English. This finding suggests that there is much similarity at the level of putative conceptual metaphors between Chinese and English. At the linguistic level, however, there are both similarities and differences. For instance, Chinese has a close equivalent to *moral high ground*, a common English expression (frequency = 198 + 31 for *high moral ground* in COCA), but does not seem to have counterparts for *moral high road* or *moral high horse*. While the spatial concept LEVEL is an entrenched metaphorical source concept for FAIR, which is conventionally instantiated, in Chinese, there does not seem to be any conventional expressions close to *level/unlevel playing field*, which is commonly used in American English (frequency = 507/19 in COCA). Also, *moral compass(es)* (see 6c) is a common English expression (frequency = 264 in COCA), which makes good metaphorical sense considering the schematic configuration in Figure 1. On the other hand, the Chinese counterpart for *compass* is also a conventionalized metaphor for many things serving as a guide, and is found in a wide variety of collocations, but no close counterpart for *moral compass* can be found in CCL. In brief, linguistic instantiations of even the same conceptual metaphors can differ remarkably in different languages due to the constraints of a set of "contextual factors" (Kövecses, 2015).

Further analysis: Decompositional and beyond

In the preceding section, we analyzed the data, chiefly linguistic but some multimodal as well, which, we argue, manifest in English the underlying moral–spatial metaphors at the conceptual level. In this section, we attempt to carry our analysis a step further. We first employ a decompositional analysis to place our study of moral–spatial metaphors in perspective. We then discuss our thoughts on the more general issues regarding the relationship between linguistic metaphors, conceptual metaphors, and their experiential bases.

Applying DAMCA based on the theoretic construct of "primary metaphor" (e.g., Grady, 1997a, 1997b; Lakoff & Johnson, 1999), Yu argues that the moral metaphors in their visual and spatial subsystems are complex metaphors which may be composed of lower-level complex metaphors, primary metaphors, metonymies, and propositions (see Yu, 2015, 2016). For example, he analyzed in detail "MORAL IS PURE" and "MORAL IS WHITE" in the visual subsystem (Yu, 2015), and "MORAL IS HIGH" and "MORAL IS LEVEL" in the spatial subsystem (Yu, 2016), arguing that they each involve different internal compositions and complexities. In what follows, we first analyze "MORAL IS BIG," and then widen our perspective illustrating "MORAL IS HIGH" and "IMMORAL IS LOW" in connection with the more general Event Structure Metaphor system (Kövecses, 2010, ch. 11; Lakoff, 1993; Lakoff & Johnson, 1999, ch. 11; Yu, 1998, ch. 5). The formulaic decompositional analysis of "MORAL IS BIG" is provided in (14).

(14) MORAL IS BIG   (Complex metaphor)
     a. MORAL IS GOOD FOR PUBLIC WELLBEING   (Proposition)
     b. GOOD IS BIG   (Primary metaphor)

As shown here, while "MORAL IS BIG" is a complex metaphor, it contains a literal proposition (14a) as its major component. This component specifies the scope of being "moral." That is, someone or some conduct is "moral" only if this person or conduct is "good for the public wellbeing" (or the majority). In this complex metaphor, however, the concept GOOD (14a), which represents an abstract judgmental valence, is structured metaphorically in terms of physical size BIG
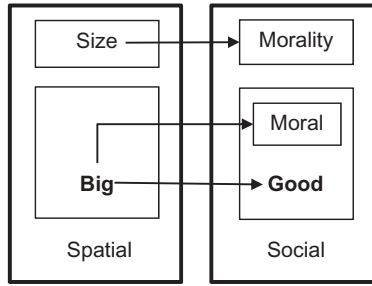
Figure 2. Schematic illustration of a decompositional analysis of "MORAL IS BIG."

(14b). So analyzed, "MORAL IS BIG" and "GOOD IS BIG" are not two separate, unrelated metaphors, but the former "houses" the latter and the latter is the "foundation stone" of the former. A diagrammatic illustration of this decompostional analysis is provided in Figure 2. In this figure, the arrow lines represent metaphorical mappings, the bold font indicates a primary metaphor, and box within box denotes that the former is a subcategory of the latter. Thus, the source concept of BIG in the spatial domain is mapped onto both MORAL and GOOD in the social domain. However, "GOOD IS BIG" is a primary metaphor, but "MORAL IS BIG" is not. This is because, in the target domain, MORAL, a specific-level (or subordinate) concept in this case, is a subcategory of GOOD, which is a generic-level (or superordinate) concept. In other words, MORAL is a kind of GOOD, namely "morally good." As a specific-level subcategory, MORAL "inherits" from its higher-level concept GOOD the metaphorical mapping from BIG (Dancygier & Sweetser, 2014; Lakoff, 1993). Therefore, there appear to be two separate conceptual metaphors: "GOOD IS BIG" and "MORAL IS BIG." This analysis accounts for the intuition that, what is "moral" is "big," but BIG is not limited to MORAL; instead, it is mapped onto GOOD in general.

In Figure 3, we attempt to show the dynamic relations and interactions between conceptual metaphors that form a conceptual network in our conceptual system. This diagram includes the pair "MORAL IS
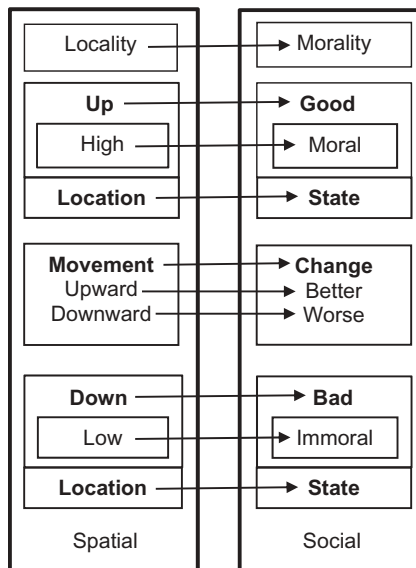

Figure 3. A decompositional analysis of "MORAL IS HIGH" and "IMMORAL IS LOW."

HIGH" and "IMMORAL IS LOW," as well as two primary metaphors from the location dual of the Event Structure Metaphor system, "STATES ARE LOCATIONS" and "CHANGES ARE MOVEMENTS."

As shown in Figure 3, "MORAL IS HIGH" and "IMMORAL IS LOW" involve mappings from the spatial domain to the social domain, namely "MORALITY IS LOCALITY." Again, MORAL is a subcategory of GOOD, and their source concepts are HIGH and UP respectively. Thus, we have "MORAL IS HIGH" and "GOOD IS UP." The former is a complex metaphor whereas the latter is a primary metaphor. MORAL and GOOD are states, but states are metaphorically conceptualized as locations, hence the primary metaphor "STATES ARE LOCATIONS" in the Event Structure Metaphor system. The same analysis can be applied to IMMORAL and BAD. In the middle is another primary metaphor "CHANGES ARE MOVEMENTS" from the Event Structure Metaphor system. Change for the better is "upward" movement; change for the worse is "downward" movement. That is why we use, for instance, *rise* and *fall* to express change in moral status for better or worse respectively (cf. 4a–e). If this analysis, based on linguistic and multimodal evidence, is on the right track, it shows how our moral cognition benefits from the spatial subsystem of moral metaphors that maps the relational structure and logic of the spatial domain onto the abstract domain of morality. In this case, the spatial subsystem of moral metaphors is also plugged into the Event Structure Metaphor system (see also Cienki, 1998). Such a decompositional analysis shows clearly how abstract concepts are often understood in terms of locations, objects, motions, forces, and so on (Lakoff, 1993; Lakoff & Johnson, 1999).

As presented in the preceding section, our preliminary study of moral–spatial metaphors in English shows that the five pairs of spatial metaphors for morality, formulated on the basis of a study in Chinese, are manifested in English as well. The five pairs of spatial concepts are mapped as source concepts onto MORAL and IMMORAL as their target concepts. However, MORAL and IMMORAL have subcategories, and the spatial concepts are mapped onto different aspects of them with some overlap between them. Table 3 lists the mappings between the five pairs of spatial concepts and various aspects of MORAL and IMMORAL as their targets, as found in Chinese (Yu, 2016). Our initial observation is that this table is largely applicable in English, too. The question that arises is what accounts for the observed similarity between Chinese and English. Our speculation is that it lies in embodied cognition (e.g., Gibbs, 2006). Some fundamental categories of embodied human experiences, in which some metaphors, especially primary metaphors, are grounded, may be shared across different human cultures. It simply takes empirical research to find out what are shared by which cultures.

Finally, in this section, we would like to touch on a couple of issues regarding the relationship between linguistic metaphors, conceptual metaphors, and their experiential bases, which we represent schematically in Figure 4. The earlier version of CMT emphasizes that linguistic metaphors manifest underlying conceptual metaphors, but some more recent studies suggest that conceptual metaphors can also be strengthened, modified, or even produced by repeated use of certain linguistic metaphors (see, e.g., Casasanto, 2016; Gibbs, 2014). For instance, as is found in Yu (2016) and this study, the conceptual metaphors "MORAL IS UPRIGHT" and "IMMORAL IS TILTED" are applicable in both Chinese and English. In accordance with embodied cognition, the metaphorical construal in both languages is such that a moral person would keep an "upright" body posture whereas an immoral person would "tilt" or even "bend" the body, resulting in the loss of "moral balance" (Yu, 2016 and this study). There is a difference between the two languages at a more specific level, however. That is, in Chinese the body being not "upright" is attributed to the heart being not "upright" in the first place.

Table 3. Mappings from spatial concepts onto aspects of MORAL and IMMORAL (Yu, 2016).

SPATIAL		MORAL	SPATIAL		IMMORAL
HIGH	→	LOFTY; NOBLE; GOOD	LOW	→	BASE; MEAN; EVIL
UPRIGHT	→	RIGHT; HONEST; IMPARTIAL	TILTED	→	WRONG; DISHONEST; PARTIAL
LEVEL	→	FAIR; JUST; IMPARTIAL	UNLEVEL	→	UNFAIR; UNJUST; PARTIAL
STRAIGHT	→	RIGHT; JUST; HONEST	CROOKED	→	WRONG; UNJUST; DISHONEST
BIG	→	LOFTY; NOBLE; GOOD	SMALL	→	BASE; MEAN; EVIL
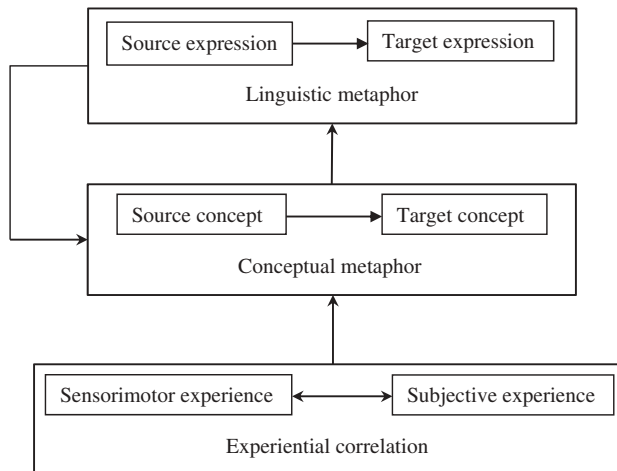
Figure 4. Relationship between linguistic metaphor, conceptual metaphor, and experiential basis.

Moral cultivation starts from "straightening the heart" (正心 *zhèngxīn*), namely, only when one has straightened one's heart can one straighten one's body, which stands for one's conduct. The repeated use of such a linguistic expression, inherited from the ancient times of Confucius over 2000 years ago, not only manifests, but also strengthens, the underlying conceptual metaphors: "MORAL IS UPRIGHT" and "IMMORAL IS TILTED." More importantly, it joins hundreds of other commonly used Chinese compounds and idioms with 心 *xīn* ("heart") as a component in maintaining the cultural conceptualization of the heart as the "central faculty of cognition," which the Chinese people inherit from generation to generation through the inheritance and use of the Chinese language (see Yu, 2009).

In this way, linguistic metaphors, through repeated use that creates salience, should exert an impact back on the very existence of underlying conceptual metaphors, too. These effects of linguistic metaphors on conceptual metaphors, which are consistent with certain claims of linguistic relativity (see, e.g., Casasanto, 2016), are reflected in Figure 4 by an arrowed line pointing back to conceptual metaphor from linguistic metaphor, thus creating a loop representing the mutual influence between linguistic and conceptual metaphors in a particular language. As shown in the figure, such influence is direct in one direction, and less so back in the other. So characterized, linguistic manifestations of conceptual metaphors in a language are not just a simple consequence of conceptual mappings in thought; instead, they are whole-sale packages that speakers of the language inherit as part of their cultural and cognitive heritage. For that reason, they carry special weight on and for those who carry them, influencing their way of viewing the world and their experience in it (Yu & Jia, 2016).

According to CMT (Grady, 1999; Lakoff & Johnson, 1999, 2003), conceptual metaphors, particularly primary metaphors, emerge from embodied experience in the form of experiential correlations; that is, the correlations between sensorimotor experience (e.g., warmth, weight) and subjective experience (e.g., affection, importance), although they are shaped by other contextual factors in particular (Kövecses, 2015), or by cultural filter in general (Yu, 2008). In Figure 4, experiential correlation is represented by a line with arrow heads on both ends connecting "Sensorimotor experience" and "Subjective experience." In this article we have studied five pairs of conceptual metaphors which, we argue, are based on some primary metaphorical mappings (e.g., "GOOD IS UP" and "GOOD IS BIG") rooted in the correlations in embodied experience. In CMT, experiential correlations that motivate conceptual metaphors are also called metonymic basis or motivation of metaphor (see, e.g., Barcelona, 2000; Radden, 2000). That is, according to CMT, metaphorical mappings are, in general, unidirectional at both linguistic and conceptual levels, from the source to the target domain. At the experiential level, however, the relationship between sensorimotor experience and subjective experience is that of correlation, which allows for bidirectional activation between the two domains of experience linked by embodied simulation (see, e.g., Dong, Huang, &

Zhong, 2015; Schneider, Rutjens, Jostmann, & Lakens, 2011; Zhong & Leonardelli, 2008). It is worth stressing that, as represented in Figure 4, the relationship between linguistic metaphor, conceptual metaphor, and embodied experience, should also be situated in the sphere of culture, which permeates all three levels of phenomena.

Conclusion

In this study, we have examined the spatial subsystem of moral metaphors in English. We have found that the five pairs of moral–spatial metaphors, originally formulated in a study of Chinese, are manifested in English too, although their specific instantiations can be similar or different at the linguistic level. Given that Chinese and English are very different languages representing and characterizing quite different cultures, the commonality discovered at the inferred conceptual level is remarkable. These findings, based on systematic analyses of linguistic evidence from the corpora in respective languages, are largely consistent with many experimental studies in social psychology that found a strong link between sensorimotor experience and subjective experience in social cognition in general and in moral cognition in particular. Findings of linguistic and psychological studies support the views of embodied simulation and embodied cognition.

Our study focuses on a cluster of five pairs of spatial metaphors for morality, but we do not rule out the possibility that there are other less salient spatial metaphors in this subsystem. Further research is needed to find out if other spatial concepts are also deployed in moral–spatial metaphors. In this study, we have also conducted a decompositional analysis on a couple of spatial metaphors for morality. The purpose is to make our analysis deeper and more systematic, showing the possible structure and composition of conceptual metaphors. The benefit of such analysis is that a seemingly large number of conceptual metaphors in our conceptual system can be reduced to a much smaller set of primary metaphors motivated by and derived from our fundamental embodied experience.

Last, we have discussed a couple of issues regarding the relationship between linguistic metaphor, conceptual metaphor, and experiential basis. It is suggested that linguistic metaphor not only manifests, but also reinforces, modifies, or even produces (especially through linguistic inheritance) underlying conceptual metaphor. Also, it is pointed out that metaphor involves unidirectional mapping at the linguistic and conceptual levels, but at the experiential level, conceptual metaphor, especially primary metaphor, is grounded in the correlation between sensorimotor and subjective experience.

To illustrate the relationship between the three levels of phenomena involved in metaphor, the configuration in Figure 4 suggests a division of labor between disciplines. Thus, linguists work from the top down, and psychologists work from the bottom up, both toward the middle where the conceptual system is located. Linguistic patterns discovered and analyzed by linguists, which are of interest in themselves for many reasons, can serve as reference points or frames for psychologists working from the opposite direction. Conversely, the same is true of psychological findings, which provide valuable empirical evidence beyond the limitation of linguistic studies aimed at the understanding of the relationship between language, culture, and cognition.

Acknowledgments

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Appendix: The original online sources of images (a–g)

(a) http://calvinayre.com/2016/01/23/business/americans-dont-think-sports-betting-immoral/
(b) http://beyondheadlines.in/2014/12/unethical-decision-making-in-organizations-the-need-for-change/
(c) http://www.scoutlander.com/publicsite/unitcustom.aspx?UID=6156&CUSTOMID=19086
(d) http://alwaysonwatch2.blogspot.com/2010/04/obama-grovelbow-gauge.html
(e) http://www.cartoonistgroup.com/store/add.php?iid=10735
(f) https://alannaghb.wordpress.com/2013/04/16/what-media-bias/
(g) https://lalinternadediogenes.wordpress.com/2011/03/23/furor-circencis/