A Constructional Study of Chinese Fictive Motion Expressions

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Abstract

Fictive motion is a linguistic phenomenon that depicts stationary entities with a sense of motion. It is popularly encountered in world languages. This study explores the network and semantics of the Chinese fictive motion construction within the framework of Cognitive Construction Grammar (CCxG). It is found that Chinese fictive motion constructions can be divided into four types, which fall on a spectrum from lower to higher level of subjectivity and abstraction, and can be related to distinct experiential motivations. In addition, the constructional approach provides us with a novel perspective to figure out the meaning construction, in which the whole is greater than the sum of parts. The comparison reveals that Chinese and English fictive motion, though having similarities due to the universality of bodies and environments, still have specificities which are rooted in different thinking patterns. Chinese underline synthetic and figurative thinking, while English speakers advocate analytic and abstract thinking. This study enriches the research into motion events by applying CCxG and contributes to linguistic typology with its comparison of Chinese and English.

Keywords: Chinese fictive motion, Cognitive Construction Grammar, Comparative Linguistics

1. Introduction

Motion verbs are frequently seen to represent static entities in both English and Chinese. See examples (1) and (2):

(1) 塔顶上是漂亮的微波站，雪白的透花栏栅，沿着盘山道蜿蜒地伸去。

On top of the tower is the beautiful microwave station. The snow-white fence zigzags along the mountain road.

(2) This fence goes from the plateau to the valley (Talmy, 2000a, p. 99).

Psychological or cognitive linguists consider the above sentences as a special linguistic phenomenon, which are referred to as "virtual motion" (Talmy, 1975), "fictive motion" (Talmy, 2000), "abstract motion" (Langacker, 1986), "subjective motion" (Matsumoto, 1996) or "simulated motion" (Matlock, 2004a). In the field of cognitive semantics, many assume there is a straightforward one-to-one mapping from conceptualization to linguistic meaning. However, it is not the case for fictive motion, which increases the significance of studying this phenomenon since such study provides evidence concerning "fundamental properties of human mind" (Blomberg & Zlatev, 2014).

Previous researches based on theories of metaphor, metonymy, conceptual blending and subjectification are mainly limited to the interrelationship between linguistic forms of fictive motion and mental processes of conceptualizers, and hence lack well-rounded analysis that includes syntax, semantics, motivations and the network of fictive motion in a single view. In addition, relatively more researches have been undertaken by linguists for English expressions than for Chinese expressions, thus making Chinese unexcavated treasure.

Cognitive Construction Grammar (CCxG), with the strength of achieving explanatory adequacy and unification, provides an effective tool to obtain the whole picture of fictive motion. The purpose of this research, therefore, is to explicate the Chinese fictive motion construction from the perspective of CCxG. The present research extends beyond previous studies in three ways. First, it proposes a tentative typology for Chinese fictive motion while unifying distinct experiential motivations within one network and distinguishing which types are more clearly connected with one kind of experience versus another. Secondly, it enriches language typology studies of lexicalization patterns, as more researchers focus on verbs in actual motion events than those in fictive motion. Thirdly, it contributes to comparative linguistics by means of digging out similarities and differences between English and Chinese fictive motion. We shall introduce previous studies on fictive motion and the existence of the Chinese Fictive Motion Construction in Sections 2 and 3. Sections 4 and 5 will present the construction network and semantics of Chinese fictive motion. A comparison between Chinese and English fictive motions will be presented in Section 6. Section 7 will be devoted to a discussion of the findings in this research.

2. Literature Review

Talmy (1996, 2000a) classifies fictive motion into distinct categories from the typological perspective including emanation, pattern paths, frame-relative motion, advent paths, access

paths and coextension paths. Fictive motion is a special kind of Motion events consisting of such components as Figure, Ground, Path, Motion, Manner and Cause (Talmy, 2000b, p. 25). Compared with Talmy's general account of our "cognitive bias towards dynamism" (2000a, p. 171-172), the following researchers lay more stress on the generation process of fictive motion. Langacker (1986, 1987, 2008) analyzes fictive motion with mental scanning and suggests the importance of fictivity and dynamicity in language. Lakoff & Turner (1989) employ the conceptual metaphor FORM IS MOTION. In light of Conceptual Blending Theory, Fauconnier (1997) holds that the combination of factive and fictive representations is generated in the blended space. Empirically, Matlock (2004a, 2004b, 2006) has carried out various experiments to test mental simulation including decision time, eye movement and drawing. In recent years, Blomberg & Zlatev (2014, 2015) reinterpret different motivations for fictive motion by adopting methods and concepts from phenomenology. Egorova, Tenbrink & Purves (2018) report the communication motivation of fictive motion ranges from "conveying the sense of place to encoding the full spatial footprint of a motion event" with a corpus-based approach.

Though regarded as linguistic universals, fictive motion demonstrates language-specific conventions. Matsumoto (1996a, 199b) compares fictive motion in English and that in Japanese. Rojo & Valenzuela (2003) try to find whether differences in actual motion of English and Spanish apply to fictive motion and check the validity of Matsumoto's conditions in Spanish. Blomberg (2015) designs an elicitation tool for investigating non-actual motion in Swedish, French and Thai. Followers adopt this experimental set-up plus a corpus-based approach with six languages to evaluate competing explanations of motivations and identify language-specific constraints (Stosic et al., 2015).

Chinese researches on this construction have a late start. Since 2008, fictive motion has interested many Chinese scholars (e.g., Li, 2009; Huang & Han, 2012; Li & Chen, 2012; Zhong, 2012; Fan, 2014; Zhong & Liu, 2017). They have either applied Talmy's model to study Chinese fictive motion or conducted comparative analysis between English and Chinese from perspectives of typology, embodied philosophy and Motion events. Through a general survey we find that researches on Chinese fictive motion still stay in the primary stage, and most merely introduce foreign theories, lacking comprehensive analysis or justified classification principles. These problems induce this study to explore Chinese fictive motion on the basis of CCxG.

3. The Existence of the Chinese Fictive Motion Construction

According to Goldberg (1995, p. 17), "C is a construction if and only if C is a form-meaning pair <Fi, Si> such that some aspect of Fi or some aspect of Si is not strictly predictable from C's component parts or from other previously established constructions". Later Goldberg (2006, p. 14) modified the definition, now asserting, "Patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency." In this light, the definition of construction does not hinge on the issue of predictability any longer, and all levels of linguistic patterns such as morphemes, words and sentences can be constructions.

Assuming the usage-based thesis, Goldberg's CCxG accounts for both "irregular" idiomatic and regular instances. As parings of form and function, constructions are basic units of language. Sentence-level constructions "themselves carry meaning, independently of the words in the sentence" (Goldberg, 1995, p. 14). Namely, words contribute meaning, but not the entire the meaning. Goldberg (1995, p. 49) further claims that constructions can specify how verbs will be integrated into them and how event types designated by verbs combine with event types designated by constructions. The advantages of the constructional approach include avoiding implausible verb senses and circularity, enabling semantic parsimony, and preserving compositionality.

This study assumes fictive motion as a construction that has its own integrated meaning, independent of its components. The Chinese fictive motion construction is defined as linguistically using motion verbs to depict physical objects in space lacking observed motion as shown in Figure 1. (V is a motion verb, and OBL/OBJ respectively refer to a directional phrase or a noun phrase). Before specific analysis, a prerequisite requires the clarification that moving factors are allowed in this construction provided that the objects' motion is beyond human's perception.
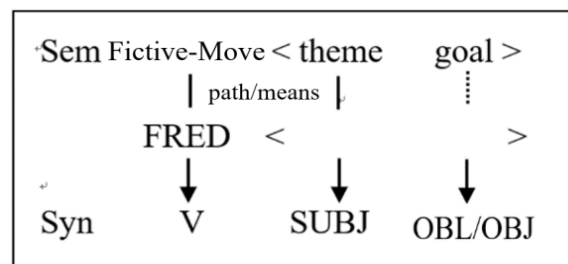

Figure 1. Chinese Fictive Motion Construction

In this construction, verbs cannot be independently responsible for the fictive-motion semantics in that if the subject is not stationary objectively, the sentence depicts actual motion. Also, motion verbs in themselves do not license static subjects that are licensed by the construction. Furthermore, prepositions in isolation cannot encode the fictive-motion semantic interpretation. A major problem with ascribing the fictive-motion semantics to prepositions is that there can be no prepositions, or many prepositions encode locative interpretation. For example, in (3), there exist no prepositions, and in (4) the preposition "在…之间" (in) indicates a locative rather than directional interpretation. Hence, it is reasonable to ascribe the fictive-motion interpretation to the construction in itself rather than verbs or prepositions.

(3) 近百年来，修建了几条穿越山脉的铁路和公路隧道，便利了意大利与中欧、西欧各国的联系。

For hundreds of years, the railway and highway tunnels, which cross mountains, have provided connection between Italy and mid-European as well as west-European countries

with convenience.

(4) 长城在崇山峻岭之间蜿蜒盘旋。

The Great Wall is winding in the mountains.

4. The Chinese Fictive Motion Construction Network

4.1 The Polysemy of the Chinese Fictive Motion Construction

"Since constructions are treated as the same basic data type as morphemes (Goldberg, 1995, p. 32)", they are expected to have polysemous meaning like morphemes rather than a single, fixed abstract sense. The Chinese fictive motion construction typically implies that the objectively stationary substances are depicted linguistically as moving. At the same time, motion within the construction varies in different scenarios, which encompass coextension paths, frame-relative motion, access paths, emanation, advent paths, pattern paths, and leaning motion. Owing to these differences, the Chinese fictive motion construction can be represented as a case of constructional polysemy.

4.1.1 Coextension Paths

In coextension paths, Talmy (2000a, p. 138) proposes that a spatially extended object is represented as if some entity moved along the configuration of the object. It is noticed that the fictively moving entity can be the object itself, an observer or someone's attention, depending on particular situations. According to Matsumoto's classification (1996b), we further divide coextension paths into three subtypes as exemplified in (5), (6), and (7). Subtype 1 involves actual motion of a particular mover at a particular time, and Subtype 2 is based on hypothetical motion of an arbitrary mover at an arbitrary time, and Subtype 3 only involves mental tracing, whose Figure is non-human motion affording. In this kind of fictive motion, the Figures are marked by the semantic characteristics: [-animate], [-movable] and [+extensible].

(5) Subtype 1 (actual motion)

小巷弯弯曲曲地爬上山坡，两旁都是古旧的房子，在街坊的指引下，她们朝巷子的深处走去。

The lane crawls tortuously over the hillside. Old houses stand on both sides. With the guidance of neighbors, they walk along the lane.

(6) Subtype 2 (hypothetical motion)

从深山峡谷蜿蜒而来的一条小路，恰好伸展到泉边。

A footpath zigzags from the mountain valley to the spring.

(7) Subtype 3 (non-human motion-affording)

迄今非洲最长的输油管道已从油田一直延伸至苏丹港。

So far Africa's longest pipeline has been stretching from oilfield to Sudan port.

4.1.2 Frame-relative Motion

When observing or describing things, human beings always choose some frame of reference object. Talmy (2000a, p. 131) distinguishes between a global frame and a local frame. With respect to a global frame, the literal meaning of words faithfully depicts observers as moving relative to their motionless surroundings. However, a language can permit shift from a global frame to a local frame in which moving observers are regarded as stationary while the still circumstance is described as moving. Talmy (2000a, p. 131) states that English is constrained against sentences which adopt part global - part local frame with part factive - part fictive motion. This is also true for Chinese. In the first part of (8) "一进生态区" (when we enter the ecological zone), the global frame is adopted. Nevertheless, via the phrase "映入眼帘" (jump into our view), the static "耕地", "鱼池", "森林", "牧场", and "加工厂" (farmland, fishpond, forest, pasture, and processing factory) seem to be moving relatively, which suggests the adoption of a local frame. In frame-relative motion, the Figures are equipped with semantic characteristics of [-animate], [-movable] and [+ of reference].

(8) 我们一进生态区，映入眼帘的是面积不大的耕地，荡漾着碧波的鱼池，令人悦目的森林，牛羊成群的牧场，以及各种各样的加工厂。

When we enter the ecological zone, the small farmland, the rippling fishpond, the pleasing forest, the pasture of flocks and herds, as well as various kinds of processing factories, jump into our eyes.

4.1.3 Access Paths

In access paths, when describing a static object's location, language users would present a path that some other entity might follow to reach (Talmy， 2000a, p. 145). The factive factor is the manifestation of the object as motionless, while the fictive facet is the depiction of some entity traversing the path. The entity can be imagined as a person or the focal point of someone's attention. In greater detail, (9) characterizes the location of Centaurus in terms of a fictive path that begins at Scorpio, proceeds across the Milky Way, and terminates at a place to the south of Aquila and the west of Capricornus. Since the constellation is far beyond reach in the sky, the path could only be traversed by someone's gaze. By comparison, the entity in (10) could be physically a walking person. In this sense, Matsumoto (1996b) maintains that access path is roughly as abstract as Subtype 1 of coextension paths involving actual motion.

In Chinese sentences without subjects are acceptable like (9) and (10). For the purpose of presenting distinctions between Chinese and English, versions of literal and free translation are both presented. Unlike English involving prepositions, Chinese employ relatively less prepositions like "往东" (to the east) and more verbs such as "渡" (crossing) and "走" (walking) to designate motion. In Chinese, there appears to exist no prepositions corresponding to "across", "through", and "over" in access paths, although such are frequently used in English.

(9) 从天蝎座往东，半渡银河，在天鹰座之南和摩羯座之西，就是人马星座。

From Scorpio to the east, half crossing the Milky Way, a place to the south of Aquila and the

west of Capricornus, is where Centaurus stays. (literal translation)

From Scorpio to the east, half across the Milky Way, a place to the south of Aquila and the west of Capricornus, is where Centaurus stays. (free translation)

(10) 再往东走一里陆路，就是沙沟车站了。

Walking one li (500 meters) towards the east on land is the Shagou station. (literal translation)

The Shagou station is one li (500 meters) east from the spot occupied on land. (free translation)

4.1.4 Emanation

According to Talmy (2000a, p. 105-106), emanation is a kind of fictive motion in which emerging from a source, something intangible moves along its emanation path and impinges on a distal object. Specifically, the intangible entity is itself fictive and its fictive motion does not rely on any tangible object's factive motion. Light, shadow and flavor are common Figures of the Motion events as (11) and (12). What calls for illustration is that in the consideration of the prerequisite of the fictive motion construction mentioned above, though light's motion does exist, it is beyond human's sense. Therefore, these sentences belong to fictive motion. The Figures of emanation are possessed with properties of [-animate], [-movable] and [+emissive] / [+perceptible].

(11) 这时，太阳光透过纱窗，洒满了整个房间。

At this moment, the sunlight is shining into the entire room through the screen window.

(12) 淡淡的淡淡的茉莉花香悄悄地飘逸飘逸开，把他埋头文件堆里的专心致志一点点一点点消蚀掉。

The light jasmine fragrance is quietly drifting away, eroding his concentration on files.

4.1.5 Advent Paths

Based on Talmy (2000a, p. 134-135), advent motion refers to fictive motion in which a stationary object's location is depicted via its arrival or manifestation at the site it occupies. To be specific, the object is motionless in fact, while it is combined with verbs which designate motion to the spot where it stays. In (13) , "古松" (ancient pines) is described as dynamic by using the verb "刺" (pierce). There exist abundant Chinese idioms utilizing the concept of advent paths such as "耸入云霄" (strike into the clouds), "拔地而起" (rise abruptly out of the ground), and "古木参天" (ancient trees touch the sky), in which verbs frequently indicate sense of unpredictability. Therefore, the Figures of this type of fictive motion have semantic properties of [-animate], [-movable] and [+unexpected].

(13) 随处可见劲拔的古松，一个个直刺入云霄。

The widespread ancient pine trees, with tall and straight figures, are piercing into the sky.

4.1.6 Pattern Paths

Talmy (2000a, p. 129) indicates that this type involves two senses of motion. What is fictive is that the entity moves in a particular way, while what is factive is that the object is either static or moves along some other path rather than in the depicted way. With respect to sentence (14), although taxis move from far to near, observing from a distant place, people feel as if taxis traversed along a vertical path by means of "浮上" (float to the surface). In (15), the drops of blood undergo real vertical motion. However, the fictive motion extends ("伸延") horizontally on the ground.

(14) 几千辆出租车浮上地平线，浮出夜的雾海。

Thousands of taxis float onto the horizon and float out of an ocean of night's fog.

(15) 在那盖满白雪的平原上，一道鲜红的血印一直伸延到看不见的远方。

On the snow-carpeted plain, a line of red bloodstains extends to the place out of sight.

4.1.7 Leaning Motion

In addition to the above patterns, there exists a special subtype in Chinese called leaning motion. What is factive is that the stationary Figure contacts or is adjacent to the motionless reference object. Whereas the literal sense of words depicts that the Figure leans on or is surrounded by the reference object, which implies the Figure or reference object's intrinsic tendency towards motion. Included in such sensed force dynamics, this interaction of opposing forces same as the above subtypes belong to the semiabstract level of palpability in Talmy's framework of "ception" (2000a, p. 146-147). In this light, we believe leaning motion is a peripheral member of the Chinese fictive motion construction. In (16) "知名大学、研究机关、专家别墅" (universities, research institutions and villas) adjoin "山水" (mountains and water). However, the adjacent spatial relationship is depicted as the fictively leaning motion.

(16) 知名大学、研究机关、专家别墅依山傍水，星罗棋布。

Renowned universities, research institutions, and expert's villas lean on water and mountains, dotting the landscape.

4.2 The Network of the Chinese Fictive Motion Construction

Using Talmy's classification model (2000a, p. 99-139) for reference, we intend to categorize the Chinese fictive motion construction into four types based on subjectivity. Traditionally, a speaker who makes an utterance while simultaneously commenting on that utterance and expressing his attitude is regarded as demonstrating subjectivity (Lyons, 1977, p. 739). In Cognitive Grammar, Langacker (1987, p. 129-138) maintains subjectivity, as an important aspect of construal is closely in association with "perspective" or "viewing arrangement". One can imagine oneself in a theater audience, watching and absorbed in a play. In this optimal viewing arrangement where the viewer is offstage, the maximized asymmetry in the viewing role makes the viewing subject construed with maximal subjectivity as (7) repeated as (17). Conversely, in an egocentric viewing arrangement where the viewer is onstage and usually explicitly mentioned, the viewing subject is characterized by objective construal as (5) repeated as (18).

(17) Subtype 3 (non-human motion-affording)

迄今非洲最长的输油管道已从油田一直延伸至苏丹港。

So far Africa's longest pipeline has been stretching from oilfield to Sudan port.

(18) Subtype 1 (actual motion)

小巷弯弯曲曲地爬上山坡，两旁都是古旧的房子，在街坊的指引下，她们朝巷子的深处走去。

The lane crawls tortuously over the hillside. Old houses stand on both sides. With the guidance of neighbors, they walk along the lane.

On the basis of subjectivity and abstraction, the Chinese fictive motion construction network is associated with four related yet distinct types. Type 1 involves coextension paths (Subtype 1) and frame-relative motion, in which a particular mover exists in the motion ICM and frequently coincides within the sentence as in (7) and (8). The actual motion of his visual sight has been projected into the mover's conceptualization of the Figure, which generates fictivity in language. Type 2 includes coextension paths involving hypothetical motion (Subtype 2) and access paths, as a concrete mover can exist like (6) and (10). However, the moving entity is not necessarily concrete and can be a focus of attention like (9). Type 3 contains subtypes such as coextension paths (Subtype 3), emanation, advent paths, and pattern paths, in which the observer does not participate in any actual motion event and what he do is mental scanning. Type 4 is leaning motion, which is not included in Talmy's model (2000a). In this type, the viewer merely senses the Figure or reference object's intrinsic tendency towards motion. From Type 1 to Type 4, the sense of motion becomes diminishingly less palpable yet increasingly more abstract, and it seems to take gradually more subjective cognitive processing for observers to express fictive motion. Therefore, these four types fall on a spectrum ranging from lower to higher degrees of subjectivity and abstraction.

In terms of cognitive motivations for fictive motion, researchers have proposed different explanations including a "cognitive bias towards dynamism" in both language and cognition (Talmy, 2000a, p. 171-172), human's sensorimotor experience of moving along linear entities (Langacker, 1987, p. 168-173), and the possibility of mentally simulating movement along the figure (Matlock, 2004a). However, none of these accounts suffice to explain the multifaceted nature of this phenomenon. Hence, Bolomberg & Zaltev (2014, 2015) argue that fictive motion is motivated by three different experiences: (1) enactive perception which implies perception is intimately linked to bodily action (Merleau-Ponty, 1962); (2) mental scanning involving the shift of attention (Langacker, 1986); and (3) the imagination of locomotion. Some may claim that the imagination of movement covers enactive perception and mental scanning, so that it cannot be regarded as a distinct motivation parallel with the former two. However, though there exists overlapping, conceptualizing the meaning of some expressions goes beyond enactive perception and mental scanning, and requires the speaker or listener to engage in the activity of conscious imagination (Blomberg & Zlatev, 2014, 2015). For instance, (18) is not only related to self-motion, but also evokes associations with

movement manners typical for certain living being with the semantically richer motion verb "爬" (crawl). Hence, the explicit imagination is regarded as a distinct explanation.

Based on our typology mentioned above, we find that generally Type 1 is motivated by enactive perception, Type 2 involves enactive perception and mental scanning, Type 3 is connected to mental scanning, and Type 4 depends on imagination. In fact, all these types involve imagination, especially for those metaphorical sentences like (18), which go beyond enactive perception and mental scanning. The network of the Chinese fictive motion construction is represented as Figure 2.
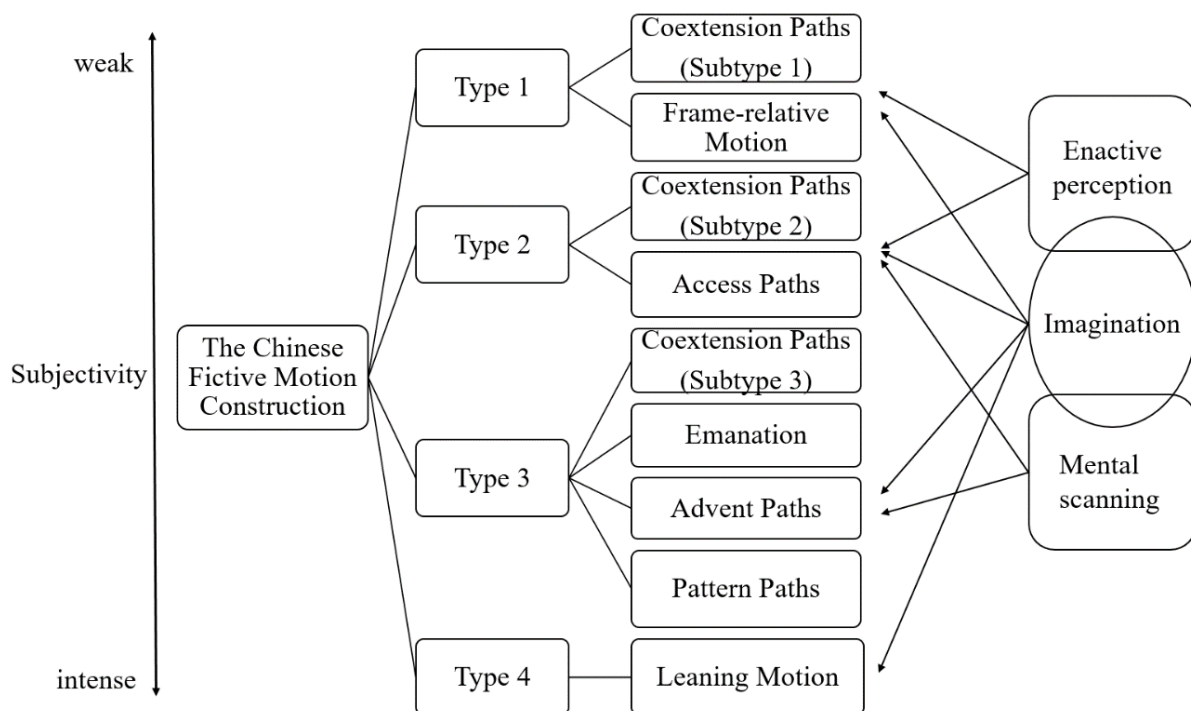

Figure 2. Network of the Chinese Fictive Motion Construction

4.3 The Prototype of the Chinese Fictive Motion Construction

The prototype or central sense of the Chinese fictive motion construction can be argued to be the sense of coextension paths. There are several reasons to adopt this view. First, our bodies, brains, and bodily capacities such as perception and movement provide significant and unconscious basis for human reason (Lakoff & Johnson, 1999, p. 16). The coextension paths is at the relatively low level of subjectivity and abstraction, since there typically exists real motion of an observer who projects motion of his sight into his conceptualization of the Figure. According to Goldberg's (1995, p. 39) "Scene Encoding Hypothesis": "Constructions which correspond to basic sentence types encode as their central senses event types that are basic to human experience," the coextension paths designates a more human-relevant scene, whose meaning is hence shown to be more basic. Furthermore, previous studies' demonstration (Stosic et al., 2015) that fictive motion sentences with motion-affording Figures are far more than those without motion-affordance in six languages (French, Italian, German, English, Polish, and Serbian) and the fact that in Japanese untravelable paths cannot

be Figures of fictive motion become supporting evidence, which calls for further corpus-based research on Chinese.

5. Semantic Constraints of the Chinese Fictive Motion Construction

The Chinese fictive motion construction has its own meaning, which its components, including Figures, verbs and adverbials, make contributions to. But none of these contribute the entire meaning. The construction constrains the way in which Figures, verbs, and adverbials are integrated with it.

5.1 Constraints on Figures

Fictive motion is a special type of Motion events that mainly include four components: Figure, Ground, Path and Motion (Talmy, 2000b, p. 34). Thus, the theme argument in this construction is the Figure in the fictive motion event. In Chinese fictive motion, it is widely recognized that the theme argument should be inanimate and immobile. More specifically, the Figure in emanation is generally emissive or perceptible like light or flavor. The Figure in frame-relative motion is usually the reference object in the global frame. The Figure typically appears unexpectedly in advent paths owing to the motion verbs. The Figure in coextension paths is extensible like highway or mountain range.

Gestalt psychology imposes significant impact on the recognition of Figures. The principle of continuity holds that human perception prefers continuous figures and the principle of proximity maintains elements that are close together are easily considered as one figure. As presented in (19), "一行脚印" (a line of footprints) as a static Figure, are depicted as moving. Moreover, constructions coerce theme arguments that can be combined within them. As mentioned above, Figures in coextension paths are extended in space. In (20), even if the Figure is an erect signboard which we generally don't assume to be outstretched, it is coerced to have extensibility by the construction.

(19) 走出去没多远，我发现有一行脚印向林子方向延伸去。

After a short walk, I find a line of footprints extending towards the forest.

(20) 街边的商店，悬挂着横式或竖式的招牌，有的制作得相当大，一直延伸到街心。

The horizontal or erect signboards are hanging in the shops along the street. Some are very big, extending to the middle of the street.

5.2 Constraints on Motion Verbs

Following Goldberg (1995, p. 49), constructions are able to constrain how verbs will combine with them and specify the class of verbs that can be integrated into them. There are three kinds of verbs that can be fused within the Chinese fictive motion construction. The first is verbs that designate the path of motion. On the basis of Matsumoto's (1996a) statement, both in English and Japanese, fictive motion sentences must include information about the path. It also applies to Chinese. When the verb itself conveys information about the path, adverbial or adpositional phrases describing a path are not obligatory. As seen in (21), the verb "上升" (ascend) provides information about the path, appearing alone as the predicate.

(21) 她之前所走的那条小径本来是缓缓地上升，现在它开始往着一个河谷下降。

The footpath she initially traversed slowly ascends, and then begins to descend towards the river valley.

The second kind is verbs that designate the manner of motion. Matsumoto (1996a) advocates the manner condition in English and Japanese that "no property of the manner of motion can be expressed unless it is used to represent some correlated property of path". Verbs in the Chinese fictive motion construction also comply with it. In Chinese there are abundant manner-of-motion verbs, of which some like "拐" (turn), "跨"(stride), "爬"(creep), "翻"(climb over), and "攀" (scramble) are frequently used in fictive motion. "拐" (turn) typically involves change of direction of the path; "跨" (stride) generally indicates information about the length of the path; "爬"(creep), "翻"(climb over), and "攀" (scramble) usually relate to a path that goes up. Some examples are given in (22) and (23). Huang & Han (2012) have collected 91 Chinese sentences of fictive motion from six books of travel proses. Of the 118 verbs from the fictive motion sentences, 107 are path-of-motion verbs, outnumbering manner-of-motion verbs greatly.

(22) 微微拱起的红砖甬道铺在地上拐向四面八方。

The slight arched red-brick paved path turns in all directions.

(23) 葡萄和树冠花藤遮光避日爬满屋顶，院内或柴门前必有小小一溪潺潺淌过，冰雪水甘凉沁爽，适怡极了。

The grape and flower vines creeps over the roof. A brook purls in the yard in front of the wooden door. The icy water is cool and refreshing.

The third type is verb-direction constructions, containing more than one verb, which appear frequently in Chinese rather than English. The first verb (V1) is the core verb which can either designate path or manner of motion as presented by "伸" (extend) and "飞" (fly) in (24) and (25). The second verb (V2), which encodes direction of motion, is named "satellite" by Talmy (2002b, p. 101-102) which is lexicalized in a closed-class type. Talmy (2002b, p. 109) has listed several satellites in Chinese such as "去" (thither), "来" (hither), "上" (up), "下" (down), "进" (in), "出" (out), "到" (all the way to), "过" (across/past), "回" (back), and "开" (apart/free). While in actual motion events, most V2s are able to act alone as core verbs, in fictive motion V2s are generally combined with V1s.

(24) 埋在土里的电话线向北伸去。

The telephone line buried in the earth extends (thither) towards north.

(25) 坐在行驶的火车上的人，看到铁道旁边的树和房屋向后飞去。

People sitting in the running train watched the trees and houses along the railway fly (thither) backward.

With respect to collocation, some Figures tend to link with certain verbs to generate fictive motion. For instance, "公路" (highway) or "铁路" (railway) is likely to match with "飞驰"

(rush) and "掠过" (skim); "山路" (mountain road) or "小路" (footpath) tends to be integrated with "爬" (climb, crawl, or creep) as shown in (26) and (27). It is certified that in constructions verbs should involve frame-semantic meanings, making reference to world and cultural knowledge. When expressing fictive motion, people have the potential to imagine themselves moving along the paths. On the highway cars with drivers usually rush, while on the mountain road people normally creep since the road is narrow or rugged.

When comparing English and Japanese fictive motion, Matsumoto (1996a) indicates untravelable linear entities, which are not intended for human travel such as walls and fences, can be Figures in English but not in Japanese. In the same way as English, it is possible for untravelable Figures to appear in Chinese like (24). However, compared with travelable paths, untravelable objects are limited to combine with certain motion verbs. Verbs like "延伸" (extend) and "穿过" (traverse) can represent fictive motion for untravelable paths, while verbs such as "飞驰" (rush) and "爬" (crawl) cannot, because it is difficult to evoke a sensorimotor experience of moving along a path in the mind of conceptualizers in describing untravelable linear entities. This provides evidence in embodied philosophy that language reflects human concepts which use and grow out of bodily capacities such as perception and movement (Lakoff & Johnson, 1999, p. 16).

(26) 小巷弯弯曲曲地爬上山坡，两旁都是古旧的房子，在街坊的指引下，她们朝巷子的深处走去。

The lane crawls tortuously over the hillside. Old houses stand on both sides. With the guidance of neighbors, they walk along the lane.

(27) 汽车沿着平坦的黑色路面疾驶，一条条白色的交通标志线向后飞驰。

The vehicle is running fast on the smooth black road. The white traffic sign lines are rushing backward.

5.3 Constraints on Adverbials

Concerning distinctions between actual motion and fictive motion, in the former, a temporal adverbial is able to represent time, duration, and frequency of motion as seen in (28). However, normally fictive motion cannot be integrated with a temporal adverbial that indicates time and frequency of motion. The fictive motion construction employs movement to construe spatial relationship, while time and frequency of motion place emphasis on movement itself.

The above statement does not mean fictive motion cannot be paired with a temporal adverbial. In English, it is quite common that a period acts as a temporal adverbial in fictive motion, as the length of path can be represented by movement for a span. Namely, spatial distance can be construed by a temporal adverbial as in (29), whereas, in Chinese, the construction tends to be combined with adverbials that designate distance or marked words of tense and aspect. In (30), the verb "延伸" (extend) is associated with the distance adverbial "四十公里" (forty kilometers). In (31), the verb "蜿蜒" (wind) connects with "着" (a marked word designating progressive tense). Chinese fictive motion rarely links with a temporal adverbial of duration

like (32), though we find a few exceptions. In (33), which is excerpted from literary works, the temporal adverbial emphasizes the vicissitudes of history rather than designates the length of the path. According to Wang (2013), influenced by different thinking patterns, English puts significant emphasis on temporal relationship while Chinese lays particular stress on spatial configuration.

(28) 我每天开着车，向延安建设工地飞奔。

     I drive car every day, rushing to Ya'an construction site.

(29) The road runs along the coast for 2 hours. (Matsumoto, 1996)

(30) 从东海边向内陆延伸四十公里，共有一万二千个似剑如戟的奇丽尖峰。

Twelve thousand magnificent peaks like swords extend for forty kilometers from the East Sea coast to the inland.

(31) 这里有一条在晨雾中隐约可见的小路，蜿蜒着向山下伸去。

Here in the morning a faintly visible footpath fog is winding down the hill.

(32) *高速公路有两个小时沿海岸线而行。

* The highway runs along the coast for 2 hours.

(33) 蜿蜒了千百年的峡中古栈道，大部分已消失在水中，只是在瞿塘峡中的风箱峡下，尚有不足百米的一段露在外面，但距水面也只有几十厘米了。

The ancient plank road in the canyon has zigzagged (existed) for thousands of years. Most part of it disappear in the water. Only the part in the Fengxiang canyon, less than a hundred meters, is exposed outside, a few dozen centimeters from the surface of the water.

Based on Matsumoto (1996a), if verbs do not express information about path, some adverbial or adpositional phrase must be included to indicate path. Language users employ fictive motion to depict configuration or extent. Specifically, the fictive motion construction evokes the motion of an imagined observer or the focus of attention along the linear entity conceptualized as a path. Thus, information about path becomes quite essential to the grasp of the configuration.

Identical to manner-of-motion verbs, manner-of-motion adverbials are constrained by the construction. They appear in the construction mainly because they describe some property of path. For instance, in (34) the adverbial "缓缓地" (slowly) combined with the verb "上升" (ascend) designates the small slope of the road, while in (35) "急促地" (hurriedly), "疯狂地" (crazily), and "一溜烟儿" (swiftly) make the sentence grammatically incorrect because these adverbials do not manifest any aspect of the path (Huang & Han, 2012). However, in Chinese we find several exceptions. For instance, the adverbial "迅速地" (rapidly) as the manner-of-motion adverbial is used to describe the development rather than the configuration of the city in (36) and the highway in (37), which suggests that adverbials in the Chinese fictive motion construction does not completely comply with the path condition proposed by Matsumoto (1996a).

(34) 她之前所走的那条小径本来是缓缓地上升，现在它开始往着一个河谷下降。

The footpath she initially traversed slowly ascends, and then begins to descend towards the river valley.

(35) *这条公路急促地／疯狂地／一溜烟儿地伸向丛林里。(Huang & Han, 2012）

* The road hurriedly / crazily / swiftly extends toward the forest.

(36) 从那以后,这里崛起了一座新城，后来从老城扩大到西城，继而又迅速向西南延伸，面积成倍扩大，房屋和设施越来越高档。

Since then, a new city has risen sharply. The old town has expanded to the western part, and afterwards extended rapidly to the southwest. The area has been scaled up. The houses and facilities become more and more high-end.

(37) 而现在高速公路、高等级公路迅速延伸,贵州冲出了山的重围。

Nowadays, the expressways and high-grade highways extend rapidly. Guizhou breaks through the siege of mountains.

5.4 Construction Coercion

Construction coercion has interested many cognitive linguists (e.g., Talmy, 1978; Croft, 1991; Goldberg, 1995, 2006; Taylor, 2002), among whom Michaelis (2004) has done much research within the framework of Construction Grammar. She defines "the Override Principle" as "if a lexical item is semantically incompatible with its morphosyntactic context, the meaning of the lexical item conforms to the meaning of the structure in which it is embedded" (Michaelis, 2004, p. 24).

In terms of Chinese fictive motion, based on Goldberg's "Semantic Coherence Principle" (1995, p. 50), the "MOVER" participant role of the motion verb should be semantically compatible with the argument "THEME" which is constrained by the construction as motionless. In other words, static entities, which originally are not licensed by the motion verb, are licensed by the construction, acting as the "MOVER" participant role. In this light, the Chinese fictive construction changes the semantic properties of verbs' participant roles. Compared with changing the number of participant roles or semantics of verbs in themselves, fictive motion presents a distinct means of construction coercion.

Moreover, there exists tense coercion. In Chinese fictive motion, we frequently encounter sentences with the simple present tense or the present progressive marked by "着" (-ing) like (38) and (39). In (38), the simple present preserves the unboundedness of winding and describes a situation that maintains constancy over time. In (39), the present progressive extracts a portion from the whole process of winding and focuses on the part of a road within sight. However, sentences with the past tense like (40) do not accord with Chinese grammatical rules. Following Langacker (2002, p. 89), in the case of past tense, a "full instantiation of the profiled process occurs prior to the time of speaking". Namely, past tense concentrates on the end of the movement. This explains why fictive motion is typically incompatible with the past tense. It is not usually possible for fictive motion which emphasizes mental scanning of conceptualizers to coincide with the end of the process.

(38) 小路在山中蜿蜒。

The road winds through the mountains.

(39) 小路在山中蜿蜒着。

The road is winding through the mountains.

(40) *小路曾在山中蜿蜒。

* The road wound through the mountains.

6. Comparing Chinese and English Fictive Motion

Chinese and English do share much in fictive motion even though they belong to diverse language families. First, the classification of Chinese fictive motion is basically consistent with Talmy's model (2000a, p. 99-139), which includes emanation, frame-relative motion, advent paths, coextension paths, pattern paths, and access paths, except for leaning motion in Chinese. Second, generally both English and Chinese comply with path and manner condition proposed by Matsumoto (1996a), which is explicated in Section 5. This suggests the universality of human thinking patterns in the world. Namely, people tend to employ similar types of motion expressions to depict originally stationary objects. Based on Lakoff and Johnson (1999, p. 16), human mind is embodied in a way such that "our conceptual systems draw largely upon the commonalities of our bodies and of the environments we live in".

Despite similarities, there exist some language-specific distinctions. First, we find out that frame-relative motion is more frequently used in Chinese than English. In frame-relative motion like (8) repeated as (41), the whole space relation of the farmland, fishpond, forest, pasture, and factories is presented at one time, which reveals the holistic thinking pattern, while in other types of fictive motion like emanation in (42), the stimulus is accessed in sequence so that entities are easily perceived as separate parts, which lays stress on the analytical thinking mode. Influenced by the traditional philosophical thought of "Unity of Heaven and Man", which holds man is an integral part of nature, the Chinese nation places emphasis on synthetic thinking. By contrast, the traditional western philosophy advocates the partition between matter and spirit, society and nature, and essence and phenomenon, which gives rise to analytic thinking, emphasizing breaking down issues into sections. This explains why, compared with English speakers, Chinese tend to produce more frame-relative motion expressions.

(41) 我们一进生态区，映入眼帘的是面积不大的耕地，荡漾着碧波的鱼池，令人悦目的森林，牛羊成群的牧场，以及各种各样的加工厂。

When we enter the ecological zone, the small farmland, the rippling fishpond, the pleasing forest, the pasture of flocks and herds, as well as various kinds of processing factories, jump into our eyes.

(42) The pillar's shadow fell onto/against the wall (Talmy, 2000a, p. 114).

Second, we discover that Chinese tend to use verbs with specific meaning like "伸" (extend), "爬" (creep) and "横"(cross), while English speakers are inclined to employ verbs with abstract meaning such as "come", "run", and "approach". The former verbs present more vivid and concrete portrayals than the latter ones. This can be attributed to distinctions between Chinese' figurative thinking pattern and English users' abstract thinking mode. Chinese are used to expressing abstract content via concrete images, while Westerners tend to utilize concepts, judgement and reasoning to carry out analysis.

Third, Chinese emphasizes parataxis and lacks overt grammar characteristics, which allows subject ellipsis in (10) repeated as (43) and serial verb constructions in (24) repeated as (44). Subject ellipsis permits Chinese access paths to use both prepositions and verbs to profile motion, while in English only prepositions designate movement. The distinction of parataxis in Chinese and hypotaxis in English also relates to discrepancies of oriental and occidental thinking modes. Affected by traditional thought of unity of subject and object, Chinese emphasize holistic thinking. By contrast, English speakers underline forms which are rooted in subject-object dichotomy and Aristotle's formal logic.

(43) 再往东走一里陆路，就是沙沟车站了。

Walking one li (500 meters) towards the east on land is the Shagou station. (literal translation)

The Shagou station is one li (500 meters) east from the spot occupied on land. (free translation)

(44) 埋在土里的电话线向北伸去。

The telephone line buried in the earth extends (thither) towards north.

7. Conclusion

Within the framework of CCxG, this paper explores the network and semantics of the Chinese fictive motion construction and conducts a comparative analysis of Chinese and English fictive motion. Representing as a case of constructional polysemy, the Chinese fictive motion construction is associated with four types which fall on a scale from lower to higher degree of subjectivity and abstraction. Instead of referring to one general motivation, we present three distinct experiential motivations and clarify which types of fictive motion are more linked to one of the three than to the other. The semantic research of Chinese fictive motion shows that themes, verbs, and adverbials are constrained and coerced by the construction. They contribute meaning, but not the entire meaning, which denies the principle of compositionality. The comparison between Chinese and English reveals that they share much in common because humans' conceptual systems bear the imprint of the commonalities of bodies and environments. Despite similarities, there exist language-specific constraints, which are attributed to different thinking modes. Chinese lay stress on synthetic and figurative thinking, while English speakers emphasize analytic and abstract thinking.

Generally speaking, this study proposes a tentative typology for Chinese fictive motion while identifying the relationship between different types of expressions and competing cognitive

explanations. It also provides a novel perspective to analyze fictive motion by means of applying CCxG and, hence, proves the applicability of CCxG and enriches the research into Motion events. Furthermore, it contributes to linguistic typology with a comparison between Chinese and English fictive motion.

Acknowledgement

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Note
If not marked, all the example sentences are from Chinese Corpus of National Language Committee and Corpus of Center for Chinese Linguistics PKU (CCL).