

# Semantic Analysis of Chinese Direction Category

Hongyu Nan

Sichuan University  
Chengdu, China

**Abstract**—In Chinese semantic roles, direction, usually associated with the source and purpose of the action, has its unique semantic features and is a process of continuous changes reflected in the action acted on things from source to the end. Therefore, the semantic category of direction includes two aspects: action and location. Essentially, the meaning of direction refers to the development process of action behavior in space. Reference is indispensable in the directional category, and a complete directional category contains at least two parts of the development process, namely, beginning, continuation and termination, which are mutually referenced. "Cong" and "zi" can be used to mark the origin, "jing" to mark the passage, and "xiang" and "chao" to mark the destination in Chinese.

**Keywords**—direction; the source; the purpose; continuous

## I. INTRODUCTION

As for direction, there is no clear analysis in the study of Chinese grammar, and the classification of semantic roles in Chinese generally does not include the category of direction. Li Linding (2011) analyzed the starting point and ending point of the "noun-preposition" and pointed out the use of prepositions "从" and "到" (which can be implied) respectively when analyzing noun-prepositions in single sentence patterns. In the Classification of Chinese Semantic Roles, Guo Rui (1995) divided Chinese into 3 categories and 12 sub-categories, including the main argument: agent, party and consul, object argument: subject, guest, colleague, department, result; and supplementary Arguments: Matters, Time, Place and Tools. Shao Jingmin et al. (2010) divided the Chinese Semantic Roles into 5 major categories and 27 minor categories, including subject (agent, uprising, etc.), object (subject, cause, perception, etc.), and object (object, work, comparison), time and space (time, place, momentum, etc.) and situation (methods, materials, tools, etc.). Their classification of semantic roles does not include "direction". This paper holds that direction is a semantic category with its own characteristics, and is usually associated with source and target.

## II. SEMANTIC CONNOTATION OF DIRECTION

Source and target are called "source" and "goal" in "lattice" grammar of Charles Fillmore (1968/2002). Source lattice represents the source of things acted on by actions determined by verbs or the starting position in the process of position change, while goal lattice indicates the terminal point of the thing acted on by the action determined by the verb or the terminal position in the process of position

change. The source point and the terminal point are not completely separated, instead, are in the continuous process of movement. The concept of direction includes two aspects: movement and spatial location, whose semantic connotation is the realization process of movement in space, as shown in "Fig. 1":

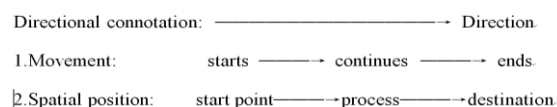


Fig. 1. The realization process of movement in space.

The development of action includes three parts: "starting", "continuation" and "ending", which correspond to "start point", "going through" and "ending point" in space. The process of action from starting point to ending point is shown as direction. The essence of these three parts of direction belongs to the developing process of the same action, so they are interdependent. Although expressed separately in syntactic structure, they cannot exist separately in semantic structure. This is different from the category of place, which provides a space for the development of action and belongs to the concept category of unconditional absolute. In fact, the direction is always in the process of reference. Therefore, the starting point and the destination are often related to the close stage of the action, which are different aspects in the process of action development, and the "passing" is always referenced by the "starting point" or "ending point". The expression of direction is often associated with the perspective of the subject. Therefore, if the action is at the stage of "passing", the tracing back of subject perspective is the concept of "originating" in the direction; if the subject perspective looks forward, it will be the concept of "destination" in the direction; if the subject perspective is in the process of attention, it is "passing". Obviously, the direction is a conceptual category in which action and space are related. Direction can be either real, pointing to specific directions in the real world, or virtual, pointing to the direction in the concept. For example, "南"(South) in the expression "我往南走去" (I'm heading south) is the real meaning. "南" belongs to an orientation based on subject experience. However, in the expression "我往深里思考这个问题" (I think deeply about this problem), the word "深" (deeply) is a virtual reference. In the real world of life, the position of "深", an expression in the subjective concept, cannot be pointed out.

### III. SEMANTIC ANALYSIS OF CHINESE DIRECTION CATEGORY

The directional semantic category often uses words "从 (cong)" and "自 (zi)" (meaning as from) in Chinese syntactic structure to indicate origin, uses words "往 (wang)", "向 (xiang)" and "朝 (chao)" (meaning as forward) to indicate destination, and uses word "经 (jing)" (meaning as through) to indicate going through. The direction is written as "orient (e, x)" in the logical formula.

#### A. Direction Means the Origin

1. 我都是从他们那里学来的。(余华《活着》)

I learned all from them. (Yu Hua's "To Live")

2. 我从睡梦里挣脱而出。(余华《活着》)

I broke away from my deep sleep. (Yu Hua's "To Live")

3. 我就把那个胖妓女从床上拖起来。(余华《活着》)

I dragged the fat prostitute out of bed. (Yu Hua's "To Live")

4. 有一天我从城里回到家中。(余华《活着》)

One day I came home from the city. (Yu Hua's "To Live")

5. 我娘从我身旁走了出去。(余华《活着》)

My mum walked out from me. (Yu Hua's "To Live")

6. 唐大历中忽有胡僧自西域来。(贾平凹《高兴》)

Some foreign monks came from the western regions during the Dali period of Tang Dynasty. (Jia Pingwa's "Happy Dreams")

7. (我)在龙华站下来, 看自南站来的客车。(郁达夫《郁达夫日记》)

(I) Come down from Longhua Station and look at the bus from the South Station. (Yu Dafu's "The Diary of Yu Dafu")

The logical formulas are:

我从那里学

( $\exists e$ )[学 (e) &agt (e, 我) & orientorigin: 从(e, 那里)]

我从睡梦里挣脱

( $\exists e$ )[挣脱 (e) &agt (e, 我) & orientorigin: 从(e, 睡梦里)]

我从床上拖妓女

( $\exists e$ )[拖(e) &agt (e, 我) & Th(e, 妓女) & orientorigin: 从(e, 床上)]

我从城里回家

( $\exists e$ )[回(e) &agt (e, 我) & Th(e, 家) & orientorigin: 从(e, 城里)]

我娘从我身旁走

( $\exists e$ )[走(e) &agt (e, 我娘) & orientorigin: 从(e, 我身旁)]

胡僧自西域来

( $\exists e$ )[来(e) &agt (e, 胡僧) & orientorigin: 自(e, 西域)]

车自南站来

( $\exists e$ )[来(e) &agt (e, 车) & orientorigin: 自(e, 南站)]

In the first five sentences, "从" is used to mark the starting point. "那里"(there), "睡梦里"(deep sleep), "床"(bed), "城里"(city) and "我身旁"(beside me) respectively indicate that the actions of "learning", "breaking away from", "dragging", "coming" and "walking" act on the origin of things or the starting position of behavior. In the latter two sentences, "自" (from) is used to mark the starting point, while "西域" (Western regions) and "南站" (the South station) in the sentence indicate the starting points of action "coming".

#### B. Direction Means Destination

1. 那件绸衣我往身上一穿就赶紧脱了下来。(余华《活着》)

The silk dress was instantly taken off as I put it on. (Yu Hua's "To Live")

2. 水银往下沉。(余华《活着》)

Mercury sinks. (Yu Hua's "To Live")

3. 我向爹的房间走去时一点力气都没有。(余华《活着》)

I had no strength when I walked to dad's room. (Yu Hua's "To Live")

4. (那些人)各自冲向看好的降落伞。(余华《活着》)

(Those people) each rushed to the parachute they were interested in. (Yu Hua's "To Live")

5. 他朝后面摆摆手。(余华《活着》)

He waved his hands back. (Yu Hua's "To Live")

6. 身体一直朝我这边歪着。(余华《活着》)

The body has been tilted towards me. (Yu Hua's "To Live")

The logical formulas are:

我往身上穿绸衣

( $\exists e$ )[穿(e) &agt (e, 我) & Th(e, 绸衣) & orientdestination: 往 (e, 身上)]

水银往下沉。

( $\exists e$ )[沉(e) &agt (e, 水银) & orientdestination: 往 (e, 下)]

我向房间走

( $\exists e$ )[走(e) &agt (e, 我) & orientdestination: 向 (e, 房间)]

(那些人)冲向降落伞。

( $\exists e$ )[冲(e) &agt (e, 那些人) & orientdestination: 向 (e, 降落伞)]

他朝后面摆手。

( $\exists e$ )[摆(e) &agt (e, 他) & Th(e, 手) & orientdestination: 朝 (e, 后面)]

身体朝我这边歪

( $\exists e$ )[歪(e) &agt (e, 身体) & orientdestination: 朝 (e, 我这边)]

In these six sentences, the first and second sentences use "往"(to) to mark the target; the third and fourth sentences use "向"(to) to mark the target; the fifth and sixth sentences use "朝"(to)mark the target. The words "身上"(body), "下" (down), "房间"(room), "降落伞"(parachute), "后面" (back) and "我这边" (my side) respectively indicate that the acts "穿"(wear), "沉" (sink), "拖"(drag), "走" (walk), "冲" (rush), "摆" (swing), "歪" (tilt) act on things or the terminal of the behavior position.

But in the destination of direction category, there will be ambiguities with the semantic category of "object", such as:

(他)向那人哈哈腰说。(余华《活着》)

(He) bent down to the person and said. (Yu Hua's "To Live")

logical form 1:  $(\exists e) [\text{哈哈腰}(e) \ \& \ \text{向}(e, \text{他}) \ \& \ \text{object: 向}(e, \text{那人})]$

logical form 2:  $(\exists e) [\text{哈哈腰}(e) \ \& \ \text{向}(e, \text{他}) \ \& \ \text{orient: 向}(e, \text{那人})]$

In this sentence, it seems that "那人" (the person) in "向那人" (to the person) can belong to direction or object, which indicates that the same syntactic structure can be used to express two or more semantic structures, and the structure "向那人" (to the person) can express "object" or "direction". According to the analysis of "object" and "direction", from the aspect of subject's attention, "object" focuses on entity, while "direction" focuses on the "relationship" between action and space. The expression "向那人" (to the person) can still be distinguished according to the subject's intention. For example, it can be said that "(He) said and bent to that person's [position and direction]" means the concept of direction, while "(he) bent down to the person and said to him, not to others" means the object concept of expression. Therefore, ambiguity in the similar situation can usually be eliminated through context understanding.

### C. There Are Few Examples Explaining Direction May Mean Process

Examples are as follows:

1. 蒋经国经上海到南京。(《蒋氏家族全传》)

Jiang Jingguo went to Nanjing via Shanghai. (Biography of Jiang's Family)

2. 宋子文偕夫人张乐怡, 经香港转赴巴黎"治病"。(《蒋氏家族全传》)

(Song Ziwen) Together with his wife, Zhang Lecha, transferred to Paris via Hong Kong to "cure diseases." (Biography of Jiang's Family)

The logical formulas are:

(蒋经国)经上海到南京。

$(\exists e) [\text{到}(e) \ \& \ \text{向}(e, \text{蒋经国}) \ \& \ \text{Th}(e, \text{南京}) \ \& \ \text{orientprocess: 经}(e, \text{上海})]$

(宋子文)经香港赴巴黎

$(\exists e) [\text{赴}(e) \ \& \ \text{向}(e, \text{宋子文}) \ \& \ \text{Th}(e, \text{巴黎}) \ \& \ \text{orientprocess: 经}(e, \text{香港})]$

The semantic category of "passing" in the direction often appears together with "destination". In the above two sentences, "上海"(Shanghai) and "香港" (Hong Kong) which express the category "passing" have the reference points as "Nanjing" and "Paris" at the end of traveling.

### IV. DIRECTION COMBINATION IN ACTION STAGE

In the process of handling the corpus, it is found that "starting point" and "ending point" are the most common semantic expressions indicating the direction of action. The semantic combination of "starting point+ending point" or "passing+ending point" is the most common expression. The "starting point+passing" is the least expression. If such semantic combination occurs, the "ending point" also needs to appear frequently, for example:

(解放军)从车站经南城门进县城。(张洁《无字》)

(PLA) enter the county town through Nanchengmen from the station. (Zhang Jie's "Without Words")

In this sentence, "从车站" (from the station) means the starting point of the action, "经南城门" (through the South gate) means "passing through", and the ending point of the action is "县城" (county town).

logical form:

$(\exists e) [\text{进}(e) \ \& \ \text{向}(e, \text{解放军}) \ \& \ \text{Th}(e, \text{县城}) \ \& \ \text{orientorigin: 从}(e, \text{车站}) \ \& \ \text{orientprocess: 经}(e, \text{南城门})]$

Because in the expression, the subject's action often acts for some specific purposes, which will become the focus of information expression, but the purposes of action does not appear, and the structure of "starting point + passing" is not conducive to the expression of information focus. Therefore, in the semantic category of direction, the combination of "starting point + passing" does not appear much.

According to the above analysis, the logical form of the directional semantic category is as follows:

$\lambda x \lambda y (\exists e) [\text{向}(e) \ \& \ \text{向}(e, x) \ \& \ \text{orientorigin}(e, y1) \ \& \ \text{orientprocess}(e, y2) \ \& \ \text{orientdestination}(e, y3)]$

Condition: The starting point and the end point of the direction may appear separately, or the starting point + the end point, or the starting point + the end point, or the combination of the starting point + the end point.

### V. CONCLUSION

To sum up, direction is the realization process of action in space. The concept of direction includes the relationship between the development process of action and location, that is, the relationship between the beginning, continuation and ending of action and space. In the process of developing action, the direction needs to refer to at least two parts of the three stages of beginning, continuing and ending. Chinese often uses "从" and "自" (from) to mark the origin, to indicate that the past can be marked with "往", "向" and "朝" (toward), and to mark the past with "经" (passing through). It is found that in the combination of three parts of direction, the semantics of direction expressing action are the most

common. When the semantics combination of direction expressing is "starting point + ending point" or "Passing through + ending point", it is the most frequent expression, and "starting point + ending point" is the least. If this kind of semantics combination appears, the "ending point" often needs to appear.

#### REFERENCES

- [1] Li Linding. 2011, *Directionrn Chinese Sentence Patterns*, the Commercial Press.
- [2] Guo Rui. 1995, *Conformity of Valence Structure and Components of the Resultant Formula, A Study of Valence Grammar in Directionrn Chinese*, In Shen Yang & Zheng Dingou (eds), the Peking University Publishing House, 168-191.
- [3] Shao Jingmin. *A Thematic Study of Chinese Grammar*, the Peking University Publishing House, 194-197.
- [4] Charles J. Fillmore, (translated by Hu Mingyang). 2002, *The Case for Case*, the Commercial Press.
- [5] Feng Zhiwei. 2006(3), *From Case Grammar to Framework Network*, Journal of PLA University of Foreign Languages.