

# Spatial Cognition of Chinese “Qian/Hou” and English “Front/Back”

LIU Jingfei

Beijing International Studies University, Beijing, China

“Front/back” orientation is a basic understanding of the spatial relationship between people and objects and represents a dimensional spatial relationship in the relative horizontal direction. The “front/back” orientation is judged based on human body experience both in Chinese “qian/hou” and English “front/back”. The spatial cognition of Chinese “qian/hou” and English “front/back” orientation can be analyzed from two aspects: topological space and reference space.

*Keywords:* spatial cognition, Chinese “qian/hou”, English “front/back”

## Introduction

In the process of getting to know the world, the concept of space is the basis for people to understand other concepts (Lakoff & Johnson, 1980, p. 14). “Front/back” is the cognition of the horizontal spatial orientation of space. There are both similarities and differences in the concepts of spatial orientation expressed by Chinese “shang/xia” and English “front/down”. This linguistic cognition deserves extensive attention in-depth study.

In this paper, Chinese “qian/hou” corresponds to English “front/back” according to the word frequency retrieval of corpus. The retrieval results in BCC (<http://bcc.blcu.edu.cn>) and Wordcount show that “front/back” appears relatively frequently, so the English “front/back” is chosen as the corresponding comparative research object with Chinese “qian/hou”. The sentence examples are selected from the *Contemporary Chinese (Chinese-English Edition) (2002 Supplement)*, *Youdao Electronic Dictionary*, *CCL*, *BCC*, and *Advanced Learners’ English-Chinese Dictionary (6th Edition)*.

This paper employs two cognitive theories of physical space, Figure-Ground Theory and Frames of Reference Theory. Ungerer and Schmid’s prominence theory (1996) shown that the prominence of information determines the choice and arrangement of information in language structure. The principle of linguistic prominence is the basis of Talmy’s Figure-Ground Theory (1978) of “figure” being a positioning concept and “ground” being the concept of positioning “figure”. Levinson’s Frames of Reference Theory (2003) explained observer’s perspective influences the referential spatial relations.

## Topological Space in Chinese “Qian/hou” and English “Front/back”

The basic meaning of Chinese “qian/hou” in online *Shuo Wen Jie Zi* is that the direction facing people or objects is “qian” and the direction facing back is “hou”. The usage of English in this respect is consistent with that of Chinese. For example:

---

LIU Jingfei, Ph.D., lecturer, School of English Language, Literature and Culture, Beijing International Studies University, Beijing, China.

(1) 房子前 (qian) 都是果树。 (There are fruit trees in front of the house.)

In English, the definition of “front” and “back” in <http://www.cymonline.com> and Merriam Webster’s computer version can be concluded that its basic meaning is “the front and back of human body and face”, and also extended to animals and other objects, for example:

(2) A small boy rode on the elephant’s back.

English “front” also refers to the orientation in front of an object or a space and close to the front, while “back” refers to the position in the rear of an object or a space and close to the rear. This usage is consistent with the Chinese “qian/hou”. For example:

(3) Write your name in the front of the book.

The spatial orientation relationship expressed by the above Chinese “qian/hou” and English “front/back” is a pure spatial concept, topological space, which is not affected by people’s point of view.

### Referential Space in Chinese “Qian/Hou” and English “Front/Back”

From the perspective of the source of Chinese “qian/hou” and English “front/back”, “qian (front)” and “hou (back)” are related to human activities and the human body itself. In other words, the expression and composition of their orientation meanings are referenced by specific objects and people, so they are referential spaces.

#### Internal Referential Space in Chinese “Qian/Hou” and English “Front/Back”

The internal referential frame is a coordinate system centered on the object. The coordinate is determined by the background or the internal orientation of the associated object. Once, the orientation and angle of the background or the associated object are determined, the spatial orientation of the figure can be determined.

**The orientation of the face of a person or object is “qian (front)”, and vice versa.** The face of the human body is the core part of information reception and transmission. People’s happiness, anger, sadness, happiness, and other important emotional information are expressed through facial expressions. According to the data analysis of researchers from Harvard Business School, people transmit external information to the brain through five senses every day, and 83% of the information is obtained through the eyes. The eyes are the windows of the mind. They can not only get information, but also send information through the eyes. Since the face is so important, people associate the “face” with vision, and take it as one of the main reference points for people to distinguish the front and rear positions of their bodies. The orientation of the face is front, and vice versa. For example:

(4) 两眼看着正前方一直往前 (qian) 走。 (Keep your eyes to the front and walk straight ahead.)

Based on people’s own physical experience, people regard the “front” orientation of objects (such as TV, computer, sofa, desk with drawer, etc.) with “face” similar to people’s face as “front” and the opposite orientation as “back”. For example:

(5) She wanted to sit in the front of the bus, not in the back.

**The orientation of the main entrance of an object or building is “front”, and vice versa.** Because of the basis of physical experience such as eating, drinking, breathing, and speaking, people usually regard themselves as a three-dimensional container with a “mouth” because it’s certain that a container has the side with a mouth and the side without a mouth. In one’s cognition, in the front and back horizontal orientation, “front” refers to the side with an entrance and “back” refers to the side without an entrance. People usually project the cognition acquired through their own body experience onto objects. Therefore, when describing the spatial orientation

relationship, people always regard objects similar to “mouth” with container characteristics as reference objects, i.e., background, and regard the side with an entrance and the side without an entrance as important basis for judging the orientation relationship between “front” and “back”. For example:

(6) Before long, a truck stopped in front of her house.

(7) There are fruit trees in front and behind of the house.

It is worth noting that in English, “back” refers to “the back of things or space inside”, but when expressing “the back of things or space outside”, “behind”<sup>1</sup> is used in English. For example, in the sentence “My home lies behind the school”, “behind” refers to the back of the outside area of the campus.

**The main functional area (of space) is “front”, and vice versa.** When people determine the “front” and “back” in the functional space, they often refer to the main functional area in this space as “front” just as the orientation of the eyes of human beings is “front”. For example, the platform or blackboard in the classroom and the stage on the performance field can be considered as the “focus” of this area. The position near the focus is “front”, and the position far from the focus is “back”. For example:

(8) The floor of the theater has a slope of three feet from the back seats to the front seats.

**The open area near the edge of the object is “front”.** In the real world, some static objects do not have obvious characteristics of “entrance” and “face”. However, based on the need to clearly describe the spatial relationship, people will still draw an invisible entrance or face for the object according to their life experience, that is, an open area near the edge of the object where people can move freely. This area is called “qian” in Chinese and “front” in English. But there is no opposite expression “hou” in Chinese or “back” in English. For example:

(9) 无论是一家人围坐在饭桌前（qian），还是国家级领导人围坐在会议桌前（qian），他们的目的是一样的——追求和平。（Whether it is a family sitting around a dinner or national leaders sitting around a conference table, the goal is the same—the pursuit of peace.）

(10) At the moment when Jean Valjean paused in front of the bed, the cloud parted.

Although Chinese “qian” and English “front” have the same function to express “the open area near the edge of the object”, other English prepositions can still be used to express it like “around” in Example (9), because English expressions are more concrete and specific.

**The moving direction of a person or an object is “front”, and vice versa.** When people judge the “front” and “back”, it is basically based on the human face, the entrance or the front face of the object. When judging the “front” and “back” of a dynamic object, the judgment standard is still based on the human body experience. When people are in motion, no matter what spatial orientation they are in, the orientation of their faces is still the front of their own orientation. The direction of human face is also the direction of human motion, that is to say, the judgment standard of taking the direction of human motion as “front” is still valid. Therefore, when people judge the orientation of a moving object, they refer to the standard of human motion. No matter whether the moving object has “entrance” or “face”, its moving direction is “front” and vice versa. For example:

(11) 游泳者侧身向前（qian）游。（The swimmer sidled forward.）

(12) 他向后（hou）一跳，仿佛被什么东西螫了一下似的。（He jumped back as if he had been stung by something.）

<sup>1</sup> The explanation of “back” in *Advanced Learners’ English-Chinese Dictionary (6th Edition)* is “the part or area of sth that is furthest from the front” (2004, pp. 104-105).

(13) I stepped back to let them pass.

The above examples are all about “front” in dynamic motion. Both living people and inanimate objects have motion conditions, so people judge the spatial orientation according to the standard of “moving direction is the front”. The direction in which swimmers swim is considered as Chinese “qian”, and the direction in which people jump back to back is considered as “hou” in Chinese and “back” in English. However, in English, although the criteria for judging movement progression are the same as those in Chinese, “front” has no such use, but “back” is acceptable, such as “stepped back” in Example (13). In English, “forward(s)” is often used to express such concepts. For example:

(14) He took two steps forward.

The “front/back” orientation of the above five types of Chinese and English is determined according to the object itself. The orientation is not affected by the orientation of the observation subject. It is fixed. The change of the position and orientation of the observation subject does not affect the “front/back” orientation of the object itself. However, when the object is an object, the determination of the “front/back” orientation of the object undergoes a subjective process based on one’s own physical experience. At this time, the linguistic representations of the Chinese “qian/hou” and the English “front/back” for the internal reference space are basically the same because the two have the same criteria for judging the internal reference space, both from their own physical experience and are subjective objective spatial orientations.

#### **Relative Referential Space of Chinese “Qian/Hou” and English “Front/Back”**

In the relative referential space, the determination of the front and back orientation has its complicated side, that is, the selection of observation subject and reference point affects the orientation of front and back. In the space scene, the observer projects the position of his body onto the target scene, and “self” becomes the central position. The central axis of self (front and back of the body position) is projected onto the background object, forming a parallel referential system for determining the orientation. For example:

(15) The bike is in front of the tree.

Fang Jingmin (1987) thinks that the description of spatial orientation includes several elements such as viewpoint, reference point, orientation field, orientation words and objects. Reference point and perspective point have a direct impact on the language expression of spatial orientation. The speaker can describe the spatial orientation of the object by selecting different perspective points. When the reference frame based on the observer is selected, it is a self-centered orientation method. As far as the orientation relationship between “bike” and “tree” in Example (15) is concerned, the “tree” itself has no front and back, but the speaker subjectively regards the orientation of the tree he faces as “front”. However, when the observer’s perspective changes, the “tree” is between “bike” and the observer and the “front” of the tree becomes the “behind” of the tree.

Whether in Chinese or English, the determination of the “front” and “back” sometimes depends on the choice of the observer’s perspective points in different language environments. The conversion of perspective points will lead to different interpretations of spatial positions. For example:

(16) 他坐在公共汽车前 (qian) 面, 为了更好的看农村的风景。(He sat in the front of the bus to get a good view of the village.)

In the Chinese “qian/hou” and English “front/back” relative referential spaces, the description of the spatial position of an object depends on the observer’s perspective point and the way of understanding. The language

used to describe the spatial position changes with the change of the perspective point. In Example (16), the speaker's subjective understanding of “self” is reflected in the language expression because the spatial description uses the reference frame with the observer as the reference point. It can be seen that the difference in the representation of “front/back” referential space description language is determined by the speaker's way of understanding and the subjectivity of the reference frame itself.

Although the criteria for judging the relative space of in Chinese “qian/hou” and English “front/back” are the same and the English “front” corresponds to the Chinese “qian”, the English “back” and the Chinese “Hou” cannot fully correspond to each other. When expressing the space outside the reference point, “behind” is the exact corresponding word in English.

### **A Cognitive Contrast of the Topological Space and Reference Space Between Chinese “Qian/Hou” and English “Front/Back”**

The spatial meaning of Chinese “Qian/Hou” is basically the same as and English “front/back”, but there are also some differences in the expression of the spatial orientation.

First, the spatial word “qian/hou” in Chinese still bears a relatively broad semantic extension when it represents the spatial position and horizontal relationship between front and back. The single word “qian” or “hou” in Chinese can respectively express different horizontal spatial relations in English, and map to English “front”, “back”, “behind” and phrases composed of “front” and “back”. English uses different prepositional phrases composed of different words to express the different accuracy of the spatial position “front” and “back” and the relationship between the subject and the object.

Second, compared with the expression of English prepositional spatial concept, Chinese does not make a specific spatial dimension distinction when expressing the “front/back” spatial concept. People are still used to the cognitive mode of “plane” (two-dimensional) when understanding the horizontal position relationship of front and back, that is, they usually focus on the two-dimensional plane of the background but ignore its “point”, “line”, or “dimension” characteristics. However, the English expression will make a distinction between specific dimensions. When expressing the spatial dimension, the English language will use different prepositions, such as “in the front of the tree” and “at the back of the room”. “In the front” focuses on the three-dimensional space in front of the classroom, and “at the back” focuses on the point position in the back space of the room.

Third, in the linguistic representation of topological space, both Chinese “qian/hou” and English “front/back” have stable objectivity, which is derived from the basic meaning of “front/back”. In terms of the linguistic representation of referential space, the judgment of spatial orientation in both Chinese and English depends on the choice of the observer's point of view, which is subjective. In the internal referential space, the determination of the “front/back” orientation of the Chinese and English objects has undergone a subjective process based on human body experience.

Fourth, as far as the language is concerned, the semantic range expressed by the Chinese spatial word “qian” is wider than that of “hou”. In particular, when expressing the “open area near the edge of the object”, only “qian” is used in English, but there is no opposite orientation of “hou”. The semantic range expressed by the English “front” is wider than that of “back” because the human face plays an important role in the reception and transmission of human information. In people's cognition, “front” is more “prominent” than “back”.

### Conclusion

In terms of topological spatial relationship, there are definitions of the front and back parts of people or objects in English “front/back”. In terms of spatial referential relationship, the semantic extension of Chinese “qian/hou”, especially “hou”, is more abundant than English “front/back”. The English “front/back” itself reflects the semantic asymmetry and the semantic extension of “front” is higher than “back”. When Chinese and English express the front and back orientation relationship, it is mainly determined according to the changes of the subject and object positions. This is the common cognition of the two languages Chinese and English, which originates from the common human physical experience and the perception of the objective space. However, the meanings expressed in Chinese and English are not completely equivalent.

### References

- Fang, J. M. (1987). The aggregation type of orientation reference in Modern Chinese. *Studies in Language and Linguistics*, 7(2), 3-13.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.
- Langacker, R. W. (1991). *Foundations of cognitive grammar* (Vol. 2). Stanford, California: Stanford University Press.
- Levinson, S. C. (2003). *Space in language and cognition: Explorations in cognitive diversity*. Cambridge: Cambridge University Press.
- Talmy, L. (1978). Figure and ground in complex sentences. In H. G. Joseph, A. F. Charles, and A. M. Edith (Eds.), *Universals of human language* (Vol. 4, pp. 625-649). Stanford, California: Stanford University Press.
- Ungerer, F., & Schmid, H. J. (1996). *An introduction to cognitive linguistics*. London: Longman.