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意象圖式與台灣自然手語的詞彙形成

Image-schemas and Word Formation in Taiwan Sign Language

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ABSTRACT

Image-schemas are derived from everyday bodily and social experiences. Since image-schemas structure our conceptual systems, we can have an embodied understanding of the conceptual world. In addition, image-schemas stem from perceptual and motor interactions. Due to the visual-gestural modality, the signed languages can give more concrete visual presentation to word formation.

In this thesis, image-schemas are employed to investigate the word formation, with the goal of finding out the relation of image-schemas to word formation in Taiwan Sign Language. The basic image-schemas discussed in this thesis include PATH, CONTAINER, and PART-WHOLE image-schemas, while the subsidiary image-schemas include UP-DOWN, FRONT-BACK, FORCE, LINK image-schemas, and so on (Peña 1999, 2000, 2003). In this thesis, it is found that image-schemas can be used to account for the word formation and to interpret the meanings of the words in Taiwan Sign Language, and that many words are formed in accordance with the concept of the image-schemas, and the words sharing the same image-schema may denote similar concept or meaning.

In addition, image-schemas can serve as the source domains for metaphorical mappings. For example, the UP-DOWN image-schema can be used as the source domain [VERTICALITY], which can be mapped onto the target domains like [QUANTITY], [QUALITY], and [STATUS] in Taiwan Sign Language. In addition, the conceptual metaphors such as MORE IS UP and LESS IS DOWN can be used to account for the formation of the words such as EXPENSIVE and CHEAP in Taiwan Sign Language.

Keywords: word formation, Taiwan Sign Language, image-schemas, metaphors

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CHAPTER 1 INTRODUCTION

1.1 Introduction

According to Johnson (1987), image-schemas are derived from daily experiences around the world. When these experiences repeatedly occur in daily lives, they become certain schematic structures and emerge in our mind. As Johnson (1987: xiv) defines, "an image schema is a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience." Johnson (1987: 126) and Lakoff (1987: 267) have provided a list of image-schemas which they think are basic and important, such as CONTAINER, UP-DOWN, PATH, NEAR-FAR, LINK schemas, and so forth.

Lakoff (1987) suggests that image-schemas structure our conceptual systems, so that we can have an embodied understanding of the structure in our conceptual systems. Therefore, the image-schemas can account for many metaphorical mappings. A metaphorical mapping comprises a source domain, a target domain, and a source-to-target mapping (Lakoff 1987: 276-280). Take the English sentence in (1) for example.

(1) The number of books printed each year keeps going up. (Lakoff and Johnson 1980: 15)

In (1), *up* is understood as the source domain [VERTICALITY], and *the number of books* is considered as the target domain [QUANTITY]. The source domain is VERTICALITY because the UP-DOWN image-schema in our conceptual system is relative to gravity and makes entities move upward and downward (Lakoff

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1987: 276-280). Furthermore, the existence of a structural correlation in our daily experience motivates every detail in this metaphorical mapping. For example, when we add more objects to a pile, the level rises, while removing the objects from the pile, the level goes down. Thus, MORE correlates with UP, whereas LESS correlates with DOWN. Therefore, VERTICALITY provides the basis for the source domain to understand QUANTITY because these correlations are in our experience.

In this thesis, I will use image-schemas to investigate the word formation with the goal of finding out the relation of image-schemas to word formation in Taiwan Sign Language. Taiwan Sign Language (hereafter, TSL), also called *ziran shouyu* 'natural signed language', is mainly used by approximately 110,000 deaf and hearing-impaired citizens in Taiwan (Chang, Su and Tai 2005). TSL belongs to Japanese Sign Language family. It has two mutually intelligible dialectal forms: TSL of Taipei and TSL of Tainan. The two dialectal forms may differ in lexicon, but the grammatical structures for these two dialects are basically the same (Chang, Su and Tai 2005). In addition, TSL is also different from signed Chinese which is called *wenfa shouyu* 'grammatical signed language'. Signed Chinese is a signed language designed for the deaf citizens in Taiwan for the instructional purpose (Smith 1989: 1). It follows the grammatical system of Mandarin. The signed language in this thesis refers to Taiwan Sign Language 'natural signed language'.

Stokoe (1960) analyzes signed languages and proposes phonological structures involving *handshape, location,* and *movement.*[1] He points out that the difference between spoken and signed languages is that in the former the phonemes are sequential, while in the latter they are simultaneous. Furthermore, spoken languages use auditory-vocal modality, while signed languages use visual-gestural

[1] Handshape refers to the shape of the hand used in a sign, while location is the position of the hand on the body or in the signing space. Besides, the hands can move around the body to show the movements.

modality (Stokoe 1960; Stokoe, Casterline, and Croneberg 1965; Meier 2002; Tai 2005). In TSL, for example, the words are produced by the body and perceived by the eyes. Take the word DOWN in TSL for example. It is produced with the handshape /SHOU/ (the fingertips point forward with the palm facing down) moving downward, as in Figure 1.1. The movement is produced by the hand, while the orientation and location are perceived by the eyes.

DOWN
Figure 1.1

Based on the UP-DOWN image-schema, the downward movement of the word DOWN can serve as the source domain [VERTICALITY]. Thus, the metaphor LESS IS DOWN is the mapping of the source domain [VERTICALITY] onto the target domain [QUANTITY]. For example, the word CHEAP, as in Figure 1.2, is produced with the handshape /QIAN/ (the thumb and index finger are connected to make a circle) moving downward. The handshape /QIAN/ is visually motivated by making the shape of a coin. The incorporation of the hand movement and the handshape /QIAN/ means that it costs little money to buy a product. Therefore, the TSL signers use this sign to mean ‘cheap’.

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CHEAP

Figure 1.2

1.2 The categorization of image-schemas

In order to discuss the word formation in TSL with the image-schemas, I will classify the image-schemas into different groups according to their structural elements and basic logic. Johnson (1987: 126) has provided a long list of image-schemas as shown in Table 1.1. However, these image-schemas seem to be ranked on a par.

CONTAINER	BALANCE	COMPULSION
BLOCKAGE	COUNTERFORCE	RESTRAINT-REMOVAL
ENABLEMENT	ATTRACTION	MASS-COUNT
PATH	LINK	CENTER-PERIPHERY
CYCLE	NEAR-FAR	SCALE
PART-WHOLE	MERGING	SPLITTING
FULL-EMPTY	MATCHING	SUPERIMPOSITION
ITERATION	CONTACT	PROCESS
SURFACE	OBJECT	COLLECTION

Table 1.1 Johnson's (1987: 126) list of image-schemas

In more recent research, it has been suggested that some image-schemas are more basic than others. Thus, based on the inventory of image-schemas by Johnson (1987: 126), Peña (2003) classifies the image-schemas into the categorization as Table 1.2 shows. She claims that some image-schemas are more basic than other image-schemas. When a subsidiary schema interacts with a basic schema, the former

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is built into the structure and logic of the latter. For example, forces consist of a source, directionality, and a destination. Besides, they trace a path when moving themselves or other entities. Therefore, the FORCE image-schema is dependent on the PATH schema, since the structural elements of the FORCE schema are similar to those of the PATH schema (Peña 1999; 2003). Moreover, Peña (2003) proposes that the CONTAINER, PATH, and PART-WHOLE schemas are the basic image-schemas which can provide guidelines for the orderly activation of other subsidiary schemas. Thus, the FULL-EMPTY and EXCESS schemas are subsidiary to the CONTAINER schema. The PROCESS, FRONT-BACK, LEFT-RIGHT, NEAR-FAR, CYCLE, and VERTICALITY image-schemas are subsidiary to the PATH schema. The PART-WHOLE image-schema comprises the subsidiary image-schemas, including the CENTER-PERIPHERY, MATCHING, LINK, MERGING, and COLLECTION schemas.

CONTAINER: FULL-EMPTY, EXCESS
PATH: FORCE (COMPULSION, BLOCKAGE, COUNTERFORCE, REMOVAL OF RESTRAINT, ENABLEMENT, DIVERSION, ATTRACTION), PROESS, FRONT-BACK, NEAR-FAR, CIRCLE (CYCLE/SPIRAL), VERTICALITY
PART-WHOLE: MERGING, MATCHING, COLLECTION, CENTRE-PERIPHERY

Table 1.2 Peña's (2003) list of image-schemas

In this thesis, based on Peña's image-schemas, I will investigate the word formation in TSL according to the categorization of the basic image-schemas and their subsidiary image-schemas.

In TSL, the hand movement of the words involves a source, a destination, and directionality and it accords with the structure of the PATH image-schema. Therefore, I will discuss the PATH image-schema and its subsidiary schemas such as

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UP-DOWN, FRONT-BACK, and CIRCLE image-schemas, since a path involves horizontal, vertical, or circular paths. In addition, I will discuss the NEAR-FAR image-schema for the reason that a path involves a long or short distance. The FORCE image-schema consists of various kinds of force and provides different sources for the word formation in TSL, so I will discuss the image-schema including the COMPULSION, BLOCKAGE, COUNTERFORCE, and ATTRACTION schemas. Besides, I will further group the BALANCE schema into the FORCE schemas, since it involves the balance between two forces on each side of the fulcrum.

The CONTAINER image-schema is very prominent for the words and also productive in the metaphorical usages in TSL. Besides, the concepts of the image-schema can be presented clearly with the handshape, movement, and location in the words. Thus, I will discuss the CONTAINER image-schema in this thesis.

As for the PART-WHOLE image-schema, in TSL word formation, the MATCHING, LINK, and MERGING schemas are reduced into the LINK image-schema in my analysis, since they all involve two or more entities joining together and becoming a union. The COLLECTION and SPLITTING image-schemas can be considered as the ways of constructing the PART-WHOLE image-schema. Therefore, the image-schemas discussed in this thesis are as follows.

PATH: VERTICALITY, FRONT-BACK, NEAR-FAR, CIRCLE, FORCE (BALANCE, COMPULSION, BLOCKAGE, COUNTERFORCE, ATTRACTION)
CONTAINER
PART-WHOLE: COLLECTION, SPLITTING, LINK

Table 1.3 The image-schemas discussed in this thesis

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In this thesis, I intend to investigate how the basic image-schemas and its subsidiary schemas are used to explain the word formation in TSL. Image-schemas as structural patterns can be used as source domains for numerous metaphors. For example, the UP-DOWN image-schema can provide the basis for the source domain [VERTICALITY], which can be mapped onto several target domains like [QUANTITY], [QUALITY], and [STATUS]. And TSL words involve upward and downward movements in accordance with the structural patterns like EXPENSIVE, CHEAP, etc. Therefore, I will discuss the relevance between the structural patterns of image-schemas and the word formation in TSL.

1.3 The organization of the thesis

This thesis uses Peña's (1999, 2000, 2003) image-schemas to investigate the relationships between the image-schemas and TSL words. The organization of this thesis is as follows. Chapter 2 discusses the word formation in TSL with respect to the PATH image-schema and its subsidiary schemas, including the UP-DOWN, FRONT-BACK, NEAR-FAR, and CYCLE image-schemas. Chapter 3 discusses the word formation in TSL with respect to the FORCE image-schema and its subsidiary schemas, including the BALANCE, COMPULSION, COUNTERFORCE, BLOCKAGE, and ATTRACTIVE schemas. Chapter 4 investigates the CONTAINER image-schema and the word formation in TSL. Chapter 5 investigates the PART-WHOLE image-schema and its subsidiary schemas, including the COLLECTION, SPLITTING, and LINK schemas. Chapter 6 is the conclusion of this thesis.

TSL words used in this thesis are collected from the research project 'Lexical Formation and Its Relation to Syntax and Discourse in Taiwan Sign Language' (NSC 95-2411-H-194-022 and NSC 95-2411-H-194-006) (Jung-hsing Chang 2005, 2006).

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Some words are collected from ‘Taiwan Sign Language Online Dictionary’ (Tsay, Tai, Lee, Chen, and Liu 2008) and from ‘The Taiwan Sign Language Dictionary’ (Chao 2007).

CHAPTER 2 PATH IMAGE-SCHEMA AND WORD FORMATION IN TSL

2.1 Introduction

In our daily lives, we must have experience about going along a path to reach the destination. For instance, during the route from home to school, we may go up and down hills and pass different spots like a post office or bus stops. The series of locations would compose a path that we go through. These recurring experiences are stored in our minds and form an embodied schema, more specifically, PATH image-schema. Thus, the PATH image-schema refers to an entity moving from one location to another and moving along a series of contiguous locations.

In addition, going through a path may move in different directions like walking up and down, turning left or right. Peña (2003: 138) concludes that the PATH schema involves directionality which consists of three different configurations: horizontal, vertical, and circular paths. The horizontal paths involve front-back and left-right orientations. The vertical paths include up-down orientations, and the circular paths involve spiral and cyclical patterns. These orientations give rise to FRONT-BACK, RIGHT-LEFT, UP-DOWN, and CIRCLE image-schemas.[2] They are subsidiary to the PATH image-schema.

In order to analyze the word formation in TSL with respect to the PATH image-schema, I will discuss TSL words with Langacker's (1987) concepts of TR and

[2] Peña (2003:138) proposes that the CIRCLE schema is more comprehensive than the CYCLE schema proposed by Johnson (1987:119-121), and it includes not only cycles but spirals which have been ignored by Johnson.

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LM.[3]

The rest of the chapter proceeds as follows. In section 2.2, I will first discuss the word formation in TSL and the PATH image-schema. In sections 2.3 through 2.5, I will discuss the word formation in TSL and the subsidiary schemas of the PATH image-schema, including the UP-DOWN, FRONT-BACK, and CIRCLE schemas. In section 2.6, I will discuss the NEAR-FAR image-schema for the reason that a path involves long or short distance. In section 2.7, I will offer the conclusion.

2.2 The PATH image-schema

According to Johnson (1987: 113) and Lakoff (1987: 275), the PATH image-schema consists of a source (starting point), a destination (end point), a path (a series of intermediate points), and a direction (from starting point to end point).[4] In the visual image of the PATH schema, as in Figure 2.1, point A refers to the starting point and point B is the end point. Points A and B are connected by a black line that represents a series of contiguous locations. According to the basic logic of the PATH schema, if we start from point A and go along the path to point B, we must pass the intermediate points between them. Furthermore, the longer the path we travel or walk, the more time it takes (Lakoff 1987: 275).

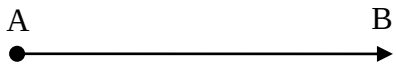

Figure 2.1: the PATH image-schema

[3] The *trajectory* (TR) is characterized as the figure within a relational profile, which is applicable to both static and dynamic relations (Langacker 1987:217). The other salient entity *landmark* (LM) is the reference point for locating the trajector.

[4] Lakoff (1987:275) replaces the term *goal* called by Johnson (1987:113) with *destination* when referring to a specific end point in space.

Take the English sentence in (1) for example. The information about the source, path, and destination of the journey is given by the directional prepositions *from*, *through*, and *to* in (1). Therefore, we know that the source is England, the path is the Chunnel, and the destination is France.

(1) Peter drove from England through the Chunnel to France.

In signed languages, it is obvious to see the trajectory of an entity with the spatial verbs. Sutton-Spence and Woll (1999: 145) state that spatial verbs can display the trajectory, speed, and manner of the movements of the entity, since they use topographic space to express spatial relationships.[5] These verbs include COME, GO, JUMP, WALK, etc. For example, the word WALK in TSL, as in Figure 2.2, is produced with the handshape /ER/. The handshape /ER/ is signed with the index and middle fingers of the moving hand which point down with the palm facing in, moving from the right side of the body to the left. The handshape /ER/ is visually motivated by mimicking the action of people walking with two legs, and the movement from right to left is the path that the person walks through.

WALK
Figure 2.2

[5] Topographic space is a spatial layout in signing space of representations of things and situations as they really are (Sutton-Spence and Woll 1999:129-151).

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2.2.1 PURPOSES ARE DESTINATIONS

According to Lakoff (1993), in the EVENT STRUCTURE metaphor PURPOSES ARE DESTINATIONS. The purposes are conceptualized as the destinations where we want to reach, and a series of actions which we have to accomplish are identified with intermediate points along a path. Take the Chinese sentence in (2) for example. The word *mubiao* 'objective' is understood as the destination toward which one travels.

(2) Zhongguo zheng chaozhe jianli xin tizhi, shixian
China PRT toward build new system realize

xiandaihua de mubiao qianjin.
modernization MOD goal advance
'China is advancing toward the goal of building up a new system and realizing modernization.'

(Yu 1998: 188)

As in spoken languages, the conceptual metaphors motivated by the PATH image-schema can also be found in TSL. The word GOAL and its schematic representation are illustrated in Figure 2.3 and Figure 2.4, respectively.

GOAL
Figure 2.3

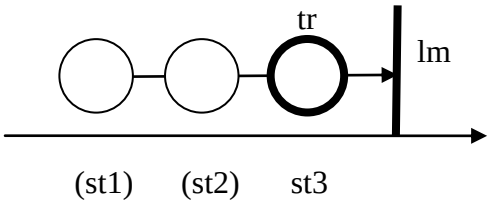

Figure 2.4

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The word GOAL in TSL is motivated by the activation of the PATH image-schema and fits the PURPOSES ARE DESTINATION mapping. The word GOAL is composed of the handshape /SHI/ and the handshape /QUAN/. The handshape /QUAN/ is produced with all the fingers of the non-moving hand which bend into a fist with the little-finger edge facing down, while the handshape /SHI/ is produced with the extended index finger of the moving hand, bending from the second knuckle, as Figure 2.3 shows. The handshape /SHI/ of the moving hand is used to represent an image of a hook, and the handshape /QUAN/ of the non-moving hand stands for a target. The destination of the hook is to clasp the target. As shown in Figure 2.4, the TR stands for a moving entity, and the LM refers to a destination. The TR getting to the LM means that the moving entity reaches the destination. Thus, the TR is identified with the handshape /SHI/, and the LM is represented with the handshape /QUAN/. The movement of the handshape /SHI/ to the handshape /QUAN/ accords with the movement of the TR to the LM.

Take the word FINISH for another example. It is produced with the handshape /JIU/ and the handshape /SHOU/. The handshape /SHOU/ is produced with the fingertips of the non-moving hand which point forward with the palm facing aside, while the handshape /JIU/ is produced with the four fingers of the moving hand bent with the palm facing in and hitting the palm of the other hand, as Figure 2.5 shows. The handshape /JIU/ is considered as a moving entity, and the handshape /SHOU/ is understood to be a destination. Like the structure of the schematic representation in Figure 2.4, the TR is identified with the handshape /JIU/ and the LM is represented with the handshape /SHOU/. That is, when the TR reaches the LM, it indicates that the moving entity reaches the destination.

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FINISH
Figure 2.5

Another word APPROACH/CLOSE TO and its schematic representation are illustrated in Figure 2.6 and Figure 2.7, respectively.

APPROACH/CLOSE TO
Figure 2.6

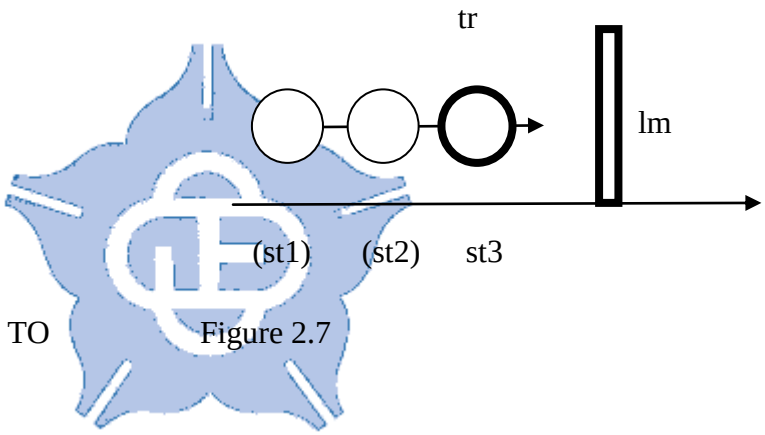
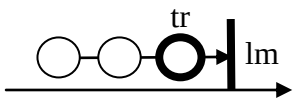


Figure 2.7

Take the word APPROACH/CLOSE TO for example. It is also produced with the handshape /JIU/ and the handshape /SHOU/, as Figure 2.6 shows. As the schematic representation in Figure 2.7 shows, the TR stands for a moving entity, and the LM refers to a destination. In this case, the TR moves toward the LM, but it doesn't reach the LM. That is, the moving entity moves close to the destination. The TR is identified with the handshape /JIU/, while the LM is represented with the handshape /SHOU/. Thus, it indicates that the moving entity approaches the destination when the TR moves close to the LM.

The words related to the PATH image-schema are given in Table 2.1. The schematic representations can show the relationships between the TR and the LM.

The TR is identified with the moving hand, while the LM is represented with the non-moving hand. There are three kinds of the PATH image-schematic representations. One is that the TR reaches the LM such as END, ARRIVE, and GOAL, another is that the TR approaches the LM like APPROACH, while the other is that the TR doesn't reach the LM like NOT YET. The handshapes, movements, and locations of these words are illustrated in Table 2.1.

	END/FINISH 結束	HANDSHAPE: Right /JIU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing right. Then, thrust the fingertips of the right handshape /JIU/ into the palm of the left hand.
		VISUALIZE: It indicates that a moving entity reaches the destination.
	ARRIVE 到達	HANDSHAPE: Right /JIU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing right. Then, thrust the fingertips of the right handshape /JIU/ into the palm of the left hand.
		VISUALIZE: It indicates that a moving entity reaches the destination.
	GOAL 目標	HANDSHAPE: Right /SHI/; Left /QUAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /QUAN/ in front of the chest, and then move the handshape /SHI/ to hook the left hand.
		VISUALIZE: The handshape /SHI/ represents an arrow, while the handshape /QUAN/ represents the target. The destination of the arrow is to shoot the target.

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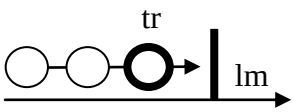
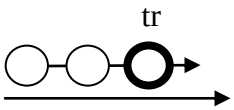
	AFTER ALL 到底	HANDSHAPE: Right /JIU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing up. Then, thrust the fingertips of the right handshape /JIU/ into the palm of the left hand.
		VISUALIZE: It indicates that a moving entity reaches the destination.
	APPROACH/ CLOSE TO 接近	HANDSHAPE: Right /JIU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing right; then, bring the fingertips of the right handshape /JIU/ close to the palm of the left hand.
		VISUALIZE: It indicates that a moving entity close to the destination.
	NOT YET 尚未	HANDSHAPE: Right /WU/
		LOCATION: In front of the chest
		MOVEMENT: Wave the right handshape /WU/ with the fingers point left and the palm facing in.
		VISUALIZE: It indicates that a moving entity hasn't get the destination yet.

Table 2.1: The words based on the metaphor GOALS ARE DESTINATIONS in TSL

2.3 The UP-DOWN image-schema

The UP-DOWN image-schema is derived from the up-down orientations of movements in physical experiences which are deeply embedded in our conceptual systems. The UP-DOWN image-schema can provide the basis for the metaphorical expressions. The source domain [VERTICALITY] can be mapped onto the target domains like [QUANTITY], [QUALITY], and [STATUS], and it gives rise to the metaphors such as MORE IS UP and LESS IS DOWN, GOOD IS UP and BAD IS DOWN, and HIGH STATUS IS UP and LOW STATUS IS DOWN. They will be

discussed with the examples in TSL in sections 2.3.1 to 2.3.3.

2.3.1 MORE IS UP and LESS IS DOWN

We all have the experience of piling books on the top of each other. The more books are piled up, the higher the level rises. On the contrary, if we draw away some books, the level of the pile would fall down. The following English sentence collected from the British National Corpus (hereafter, BNC) is illustrated in (3).

(3) She said: "More and more evidence is piling up against Sellafield, but they keep trotting out the same old thing…" (BNC)

In (3), *evidence* is an abstract substance, but here it is used metaphorically as a concrete entity and can be piled up with more and more evidence. In this case, the word *up* can be understood directly as verticality since the UP-DOWN image-schema has deeply embodied in our conceptual systems, and *more and more evidence* is considered as the quantity of concrete entity. Thus, mapping the source domain [VERTICALITY] onto the target domain [QUANTITY] is the orientational metaphor MORE IS UP.

As discussed above, the metaphors MORE IS UP and LESS IS DOWN motivated by the UP-DOWN image-schema can also be found in TSL word formation. The word DEPOSIT denoting the UP image-schema is given in Figure 2.8, while its schematic representation is given in Figure 2.9.

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DEPOSIT

Figure 2.8

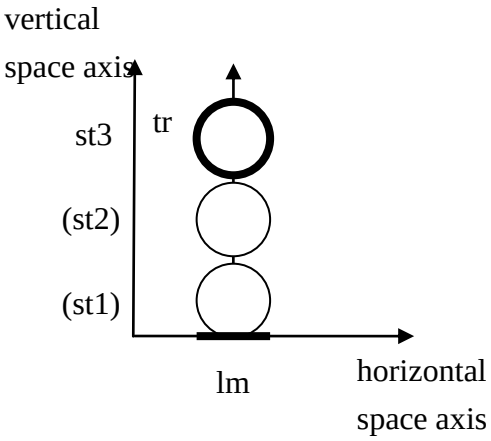

Figure 2.9

The word DEPOSIT, as in Figure 2.8, is composed of the handshape /SHOU/ and the handshape /QIAN/. The handshape /QIAN/ moves upward slowly from the palm of the handshape /SHOU/. In TSL the handshape /QIAN/ of the moving hand is visually motivated by showing an image of a coin, while the handshape /SHOU/ of the non-moving hand stands for the ground level on which the coins are piled up.[6] Thus, as shown in Figure 2.9, the TR stands for a moving entity, and the LM refers to a ground level. The TR starts moving from the ground level and then upward to a higher position. Thus, the TR is identified with the handshape /QIAN/, while the LM is represented with the handshape /SHOU/. The upward movement of the TR accords with the movement of the handshape /QIAN/. As the handshape /QIAN/ moves higher and higher, it indicates that more and more coins are piled up.

Another word THE RISING OF PRICE and its schematic representation are illustrated in Figure 2.10 and Figure 2.11, respectively.

[6] The handshape /QIAN/ is the visual image of a coin and involves the conceptual mapping (Taub 2001). The circle shape produced by the thumb and the index finger depicts the form of a coin. The conceptual mapping between handshape /QIAN/ and the real entity occurs in the mind of the signer.

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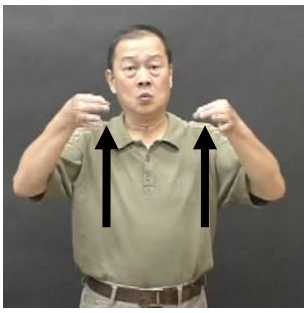

THE RISING OF PRICE

Figure 2.10

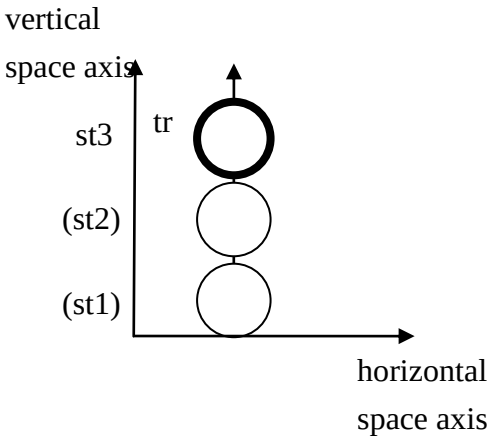

Figure 2.11

The word THE RISING OF PRICE is composed of the handshape /QIAN/ of each hand which moves upward from the waist. As the schematic representation in Figure 2.11 shows, the TR stands for a moving entity and moves upward, while the LM isn't prominent in this pattern. Therefore, the TR is identified with both hands. In addition, the upward movement of the TR accords with that of the handshape /QIAN/. This sign indicates that the price is rising.

In contrast with the UP image-schema, the DOWN image-schema involves the downward movement of the TR. Mapping the downward movement of the TR onto the target domain [QUANTITY] is the metaphor LESS IS DOWN. For example, the word THE DECREASE OF PRICE, as in Figure 2.12, is composed of the handshape /QIAN/ of each hand which moves downward from the shoulders. As shown in Figure 2.13, the TR stands for a moving entity and moves downward. Therefore, the TR is identified with both hands. In addition, the downward movement of the TR accords with that of the handshape /QIAN/. In the light of the metaphor LESS IS DOWN, the downward movement of the handshape /QIAN/ indicates that the price is falling.

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THE DECREASE OF PRICE

Figure 2.12

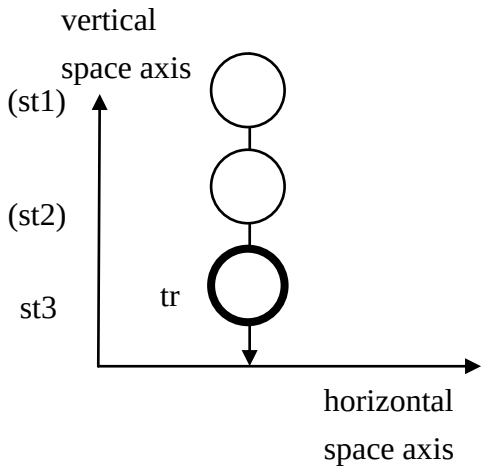
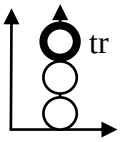
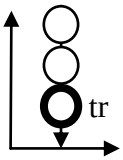


Figure 2.13

The various patterns of the UP-DOWN image-schema are given in Table 2.2. These words involve the hands moving upward or downward. Based on the metaphor MORE IS UP and LESS IS DOWN, the upward movement of the hands denotes the meaning of 'more', while the downward movement denotes the meaning of 'less'. The handshapes, movements, and locations of these words are illustrated in Table 2.2.

	THE RISING OF PRICE 漲價	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands upward with the palms facing each other.
		VISUALIZE: It indicates that the price is rising.
	THE DECREASE OF PRICE 降價	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands downward with the palms facing each other.
		VISUALIZE: It indicates that the price is falling.

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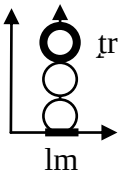
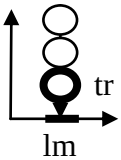
	WASTE 浪費	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands downward quickly with the palms facing each other and open the hands in the meantime.
		VISUALIZE: It indicates throwing money to the ground.
	EXPENSIVE 貴	HANDSHAPE: Right /QIAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing up; then move the right handshape /QIAN/ upward from the left palm.
		VISUALIZE: It indicates that it takes lots of money to buy a product.
	DEPOSIT 儲蓄	HANDSHAPE: Right /QIAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing up; then move the right handshape /QIAN/ upward from the left palm.
		VISUALIZE: It indicates that more and more coins are piled up.
	ACCUMULATE 囤積	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /TONG/ with the palm facing up and place the right handshape /TONG/ over that with the palm facing down; then move the right hand upward.
		VISUALIZE: The upward movement of the right hand indicates the level of the pile rises.
	CHEAP 便宜	HANDSHAPE: Right /QIAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing up. Then, move the right handshape /QIAN/ downward to the left palm.

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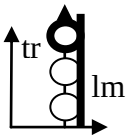
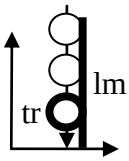
		VISUALIZE: It indicates that it takes little money to buy a product.
	HIGH BLOOD PRESSURE 高血壓	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: Near the neck
		MOVEMENT: The index finger of the right handshape /YI/ moves upward along the index finger of the left handshape /YI/.
		VISUALIZE: The blood pressure tasted around the neck is high.
	LOW BLOOD PRESSURE 低血壓	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: Near the neck
		MOVEMENT: The index finger of the right handshape /YI/ moves downward along the index finger of the left handshape /YI/.
		VISUALIZE: The blood pressure tasted around the neck is low.

Table 2.2: The words based on the metaphors MORE IS UP and LESS IS DOWN in TSL

2.3.2 GOOD IS UP and BAD IS DOWN

The UP-DOWN schema can also provide the basis for the metaphorical expressions with respect to quality. The spatial domain [VERTICALITY] can be mapped onto the target domain [QUALITY] like the metaphors GOOD IS UP and BAD IS DOWN. Take the Chinese sentence in (4) for example.

(4) Duo nian lai, pingguo zhiliang yi-lu
many years come apples quality all-the-way

xia hua.
downward slip.
'For many years, the quality of apples has been slipping down all the way.'
(Yu 1998:165)

In (4), *xia hua* ‘slip down’ is a movement which indicates being out of control, since it is difficult to stop the movement falling down and may lead to a serious condition (Yu 1998:165). Therefore, the word *zhiliang* ‘quality’ is considered as the target domain [QUALITY], and *xia hua* ‘slip down’ is understood as the source domain [VERTICALITY]. The mapping of the source domain onto the target domain is the orientational metaphor BAD IS DOWN.

Take the word WIN for example. It is produced with the fingers of the handshape /SHOU/ touching the signer’s nose. Then the palm of the handshape /SHOU/ turns forward and moves upward, as Figure 2.14 shows. The UP image-schema is illustrated with the schematic representation in Figure 2.15. The TR stands for an entity moving upward, while the LM is not prominent in this pattern. Thus, the TR is identified with the handshape /SHOU/ and the trajectory of the TR accords with the upward movement of the hand. Therefore, the handshape /SHOU/ moving upward indicates a positive meaning: winning the game.

WIN

Figure 2.14

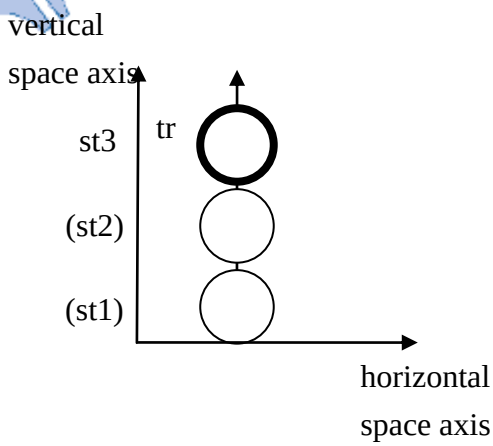


Figure 2.15

In contrast with the UP image-schema, the DOWN image-schema involves the downward movement of the TR. The word LOSE is produced with the fingers of

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the handshape /SHOU/ touching the signer's nose. Then the palm of the handshape /SHOU/ turns up and moves downward, as Figure 2.16 shows. As shown in Figure 2.17, the TR is identified with the handshape /SHOU/ and the trajectory of the TR accords with the downward movement of the hand. Thus, this sign indicates the negative meaning: losing the game.

LOSE
Figure 2.16

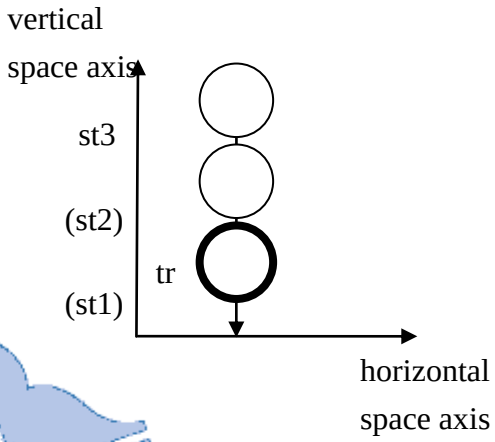
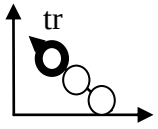


Figure 2.17

The various patterns of the UP-DOWN image-schema are given in Table 2.3. These words involve the hands moving upward or downward. Based on the metaphor GOOD IS UP and BAD IS DOWN, the upward movement of the hands denotes positive meanings, while the downward movement denotes negative meanings. The handshapes, movements, and locations of these words are illustrated in Table 2.3.

	PROGRESS 進步	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: Starts from the waist
		MOVEMENT: Move both hands upward from the waist of the signer with the palms facing down.
		VISUALIZE: It indicates that something was originally in a poor status, then turned better, and kept going on well.

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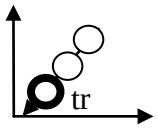
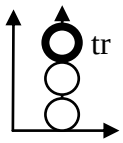
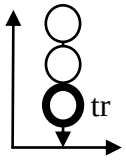
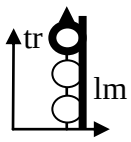
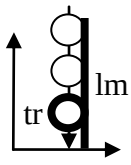
	RETROGRESS 退步	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: Starts from the shoulders
		MOVEMENT: Move both hands downward from the shoulders of the signer with the palms facing down.
		VISUALIZE: It indicates that something was originally in a good status but somehow turned bad and getting worse.
	WIN 勝利	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the face
		MOVEMENT: Touch the signer's nose with the handshape /SHOU/; then the palm turns out and moves upward.
		VISUALIZE: The hand touching the nose substitutes for the face. The palm rising up indicates pride.
	LOSE 輸	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the face
		MOVEMENT: Touch the signer's nose with the handshape /SHOU/; then the palm turns up and moves downward.
		VISUALIZE: The hand touching the nose substitutes for the face. The palm turning down means depression.
	HIGH LEVEL 程度高	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: The index finger of the right handshape /YI/ moves upward along the index finger of the left handshape /YI/.
		VISUALIZE: The index finger of the left handshape /YI/ represents a scale, and the index finger of the right handshape /YI/ acts as an indicator. The upward movement means the value is high.
	LOW LEVEL 程度低	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: The index finger of the right handshape /YI/ moves downward along the index

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		finger of the left handshape /YI/.
		VISUALIZE: The index finger of the left handshape /YI/ represents a scale, and the index finger of the right handshape /YI/ acts as an indicator. The downward movement means the value is low.

Table 2.3: The words based on the metaphors GOOD IS UP and BAD IS DOWN in TSL

2.3.3 HIGH STATUS IS UP and LOW STATUS IS DOWN

People at higher locations have vantage points and control over entities easily, while people at lower locations have less control over others (Peña, 2004: 133). Mapping the UP-DOWN image-schema onto the target domain [STATUS] constructs the metaphors HIGH STATUS IS UP and LOW STATUS IS DOWN. Take the English sentence in (5) for example.

(5) Ever since his time as a medical student, he had been drawn towards women who were higher up the career ladder, reveling in both the challenge and the reflected glory when he succeeded. (BNC)

In (5), *the career ladder* is used to denote job promotion, and *higher up the career ladder* indicates that the women in the higher positions have the authority to control other people. Therefore, *career ladder* is considered as the target domain [STATUS], and *higher up* is understood as the source domain [VERTICALITY]. The mapping of the source domain onto the target domain is the orientational metaphor HIGH STATUS IS UP.

The UP-DOWN schema can also serve as the source domain to map onto the target domain [STATUS] in TSL. The word FEMALE CHAUVINISM and its schematic representation are illustrated in Figure 2.18 and Figure 2.19, respectively.

FEMALE CHAUVINISM

Figure 2.18

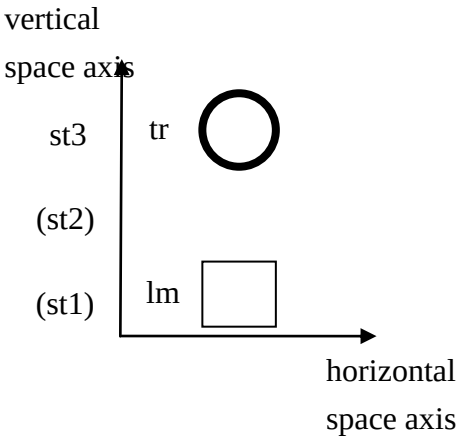

Figure 2.19

The word FEMALE CHAUVINISM is produced with the handshape /NÜ / and the handshape /NAN/. The handshape /NÜ / is produced with the extended little finger pointing down, while the handshape /NAN/ is produced with the extended thumb pointing up, as Figure 2.18 shows. The schematic representation of the UP image-schema is illustrated in Figure 2.19. The TR is located at higher position than the LM. Therefore, the TR is identified with the handshape /NÜ /, which represents a woman, while the LM is represented with the handshape /NAN/, which stands for a man. Thus, the higher position of the TR than that of the LM indicates that the woman is superior to the man.

In contrast, the word MALE CHAUVINISM is motivated by using handshapes at different positions. As shown in Figure 2.20, the word MALE CHAUVINISM is produced with the handshape /NÜ / and the handshape /NAN/. The handshape /NÜ / is produced with the extended little finger pointing up, while the handshape /NAN/ is produced with the extended thumb pointing down. As the schematic representation in Figure 2.19, the TR is identified with the handshape /NAN/, while the LM is identified with the handshape /NÜ /. Thus, the higher position of the TR than that of the LM indicates that the man is superior to the woman.

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MALE CHAUVINISM
Figure 2.20

The TSL words with the various patterns of the UP-DOWN image-schema are given in Table 2.4. These words involve the hands moving upward or downward. Based on the metaphor HIGH STATUS IS UP and LOW STATUS IS DOWN, the upward movement of the hands indicates high status, while the downward movement indicates low status. The handshapes, movements, and locations of these words are illustrated in Table 2.4.

tr lm	FEMALE CHAUVINISM 大女人主義	HANDSHAPE: Right /NÜ /, Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Point the right handshape /NÜ / down to the left handshape /NAN/.
		VISUALIZE: The handshape /NÜ / represents a woman, while the handshape /NAN/ stands for a man. It indicates that the woman is superior to the man.
	MALE CHAUVINISM 大男人主義	HANDSHAPE: Right /NÜ /, Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Point the left handshape /NAN/ down to the right handshape /NÜ /.
		VISUALIZE: It indicates that the man is superior to the woman.

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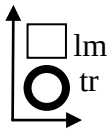
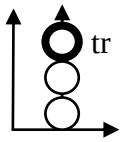
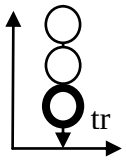
	SUBORDINATE 副	HANDSHAPE: Right /NAN/, Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /NAN/ with the palm facing right; then put the thumb of the right hand at the first knuckle of the left thumb.
		VISUALIZE: The left handshape /NAN/ is the leader, and the right handshape /NAN/ with the thumb at a lower position indicates he is subordinate to the leader.
	LEADER 領袖	HANDSHAPE: Right /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the right handshape /NAN/ in front of the chest with the palm facing left; then move the hand upward.
		VISUALIZE: It indicates that the man at a higher location has vantage points and controls over others easily.
	ELDER BROTHER 哥哥	HANDSHAPE: Right /XIONG/
		LOCATION: In front of the face
		MOVEMENT: Touch the right cheek with the middle finger and then move upward.
		VISUALIZE: It indicates that the brother is senior in the family.
	ELDER SISTER 姊姊	HANDSHAPE: Right /JIE/
		LOCATION: In front of the face
		MOVEMENT: Touch the right cheek with the ring finger and then move upward.
		VISUALIZE: It indicates that the sister is senior in the family.
	YOUNGER BROTHER 弟弟	HANDSHAPE: Right /XIONG/
		LOCATION: In front of the face
		MOVEMENT: Touch the right cheek with the middle finger and then move downward.
		VISUALIZE: It indicates that the brother is junior in the family.

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	YOUNGER SISTER 妹妹	HANDSHAPE: Right /JIE/
		LOCATION: In front of the face
		MOVEMENT: Touch the right cheek with the ring finger and then move downward.
		VISUALIZE: It indicates that the sister is junior in the family.

Table 2.4: The words based on the metaphors HIGH STATUS IS UP and LOW STATUS IS DOWN in TSL

2.3.4 Summary

In section 2.3, I have investigated the UP-DOWN image-schema and word formation in TSL. The UP-DOWN image-schema provides the basis for the source domain which can be mapped onto the different target domains of quantity, quality, and status. In the quantity domain, TSL words related to the metaphors MORE IS UP and LESS IS DOWN are EXPENSIVE, CHEAP, etc. The words related to the metaphors GOOD IS UP and BAD IS DOWN are WIN, LOSE, etc. The words related to the metaphors HIGH STATUS IS UP and LOW STATUS IS DOWN are FEMALE CHAUVINISM, MALE CHAUVINISM, etc.

2.4 The FRONT-BACK image-schema

The FRONT-BACK image-schema is proposed by Lakoff (1987: 293). Clausner and Croft (1999: 15) group it into SPACE schema, while Peña (2003: 180) states that the FRONT-BACK image-schema is the subsidiary of the PATH schema in the light of the structural elements as shown in (6).

(6) a. The source or starting point can be viewed as a BACK location.
b. The destination or end point can be viewed as a FRONT location.
c. A series of the intermediate points between the source and destination make the TR move from the source to the goal.
d. Directionality or inherent orientation makes the TR move in space.

Peña (2003: 180)

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Given the structural elements above, the FRONT-BACK schema can underlie temporal metaphors, since it can be mapped onto a time line. In English, the research on metaphors about time has been studied by Lakoff (1990, 1993). He listed some sentences as shown in (7).

(7) a. That time is here.
b. I'm looking ahead to Christmas.
c. The time has long since gone when…

Lakoff (1990: 56)

According to Lakoff (1990: 55), time in English is conceptualized in terms of space, and the trajectory of time is continuous and one-dimensional motion. Therefore, the word *here* in (7a) reveals that the present time is at the same location as a canonical observer. The word *ahead* in (7b) denotes that the future times are in front of the observer, while the word *gone* in (7c) indicates that the past times are behind the observer.

Such research has been studied by Sutton-Spence and Woll (1999) in British Sign Language (hereafter, BSL), Johnston and Schembri (2007) in Auslan, Wilbur (1987), Wilcox (2000), and Taub (2001) in American Sign Language (hereafter, ASL), and Su (2004) and Lin (2007) in TSL.

The word TODAY/NOW and its schematic representation are illustrated in Figure 2.21 and Figure 2.22, respectively.

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TODAY/NOW
Figure 2.21

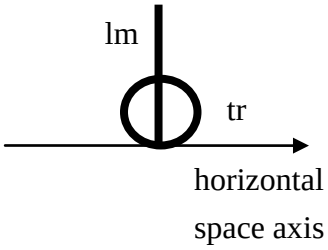

Figure 2.22

For example, the word TODAY/NOW is produced with the handshape /SHOU/ of each hand. The palms of both hands face down on the sides of waist, as Figure 2.21 shows. As shown in Figure 2.22, the TR and the LM are located at the same position. Thus, the TR is identified with both hands which represent the time, while the LM is represented with the body of the signer which stands for the observer. Thus, this sign indicates that the present time is at the same location as the observer.

Another word TOMORROW and its schematic representation are illustrated in Figure 2.23 and Figure 2.24, respectively.

TOMORROW
Figure 2.23

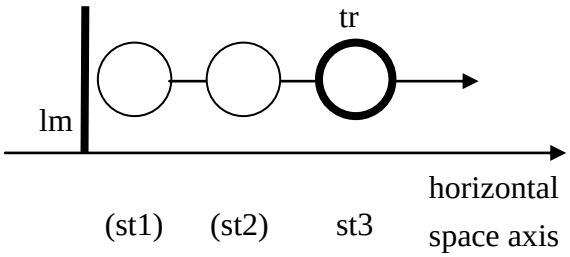

Figure 2.24

The word TOMORROW is produced with the handshape /YI/ of the moving hand. The index finger of the handshape /YI/ touches the temple of the right side and then moves forward over the right shoulder, as Figure 2.23 shows. As shown in Figure

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2.24, the TR stands for the time, and the LM stands for the observer. The arrow of the horizontal space axis represents the directionality of the TR's moving. The trajectory of the TR ahead of the LM indicates that the future is a journey ahead of the observer (Yu 1998). Therefore, the TR is identified with the handshape /YI/, while the LM is represented with the body of the signer. The forward movement of the TR from the LM indicates the journey ahead of the observer. Thus, the handshape /YI/ 'one' indicates one day in the future.

The word YESTERDAY and its schematic representation are illustrated in Figure 2.25 and Figure 2.26, respectively.

YESTERDAY
Figure 2.25

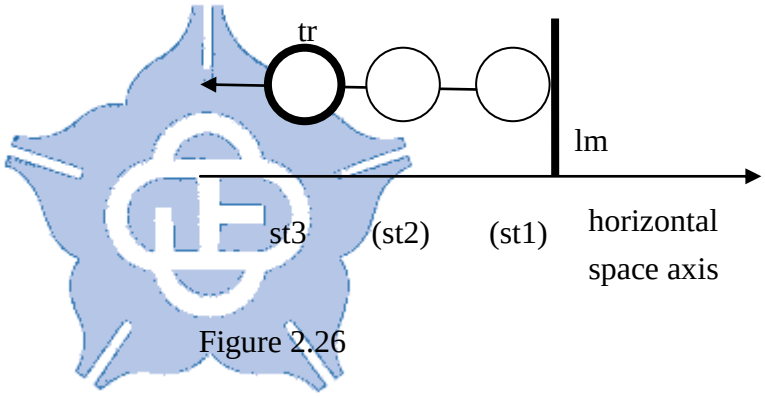

Figure 2.26

The word YESTERDAY is produced with the handshape /YI/ of the moving hand. The extended index finger of the handshape /YI/ moves backward over the shoulder, as Figure 2.25 shows. As shown in Figure 2.26, the trajectory of the TR behind of the LM indicates that the past time is a trace which left behind of the observer. Therefore, the TR is identified with the handshape /YI/, while the LM is represented with the body of the signer. The backward movement of the TR from the LM indicates the journey behind the observer. In this word, the handshape /YI/ 'one' indicates one day in the past.

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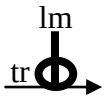
Other TSL words with the schematic representations of the FRONT-BACK image-schema are listed in Table 2.5. The TR is identified with the moving hand, while the LM is represented with the body of the signer. The handshape of some words can stand for days. For example, the words TOMORROW and YESTERDAY are produced with the handshape /YI/, which stands for 'one day'. The forward movement of the handshape /YI/ represents 'tomorrow', while the backward movement represents 'yesterday'. The handshape /ER/ used in other words such as THE DAY AFTER TOMORROW and THE DAY BEFORE YESTERDAY stands for 'two days'. Thus, the forward movement of the handshape /ER/ represents 'two days in the future', while the backward movement represents 'two days in the past'.

	TODAY/NOW 今天/現在	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands downward on the sides of waist with the palms facing down.
		VISUALIZE: The present time is at the same location as the observer.
	TOMORROW 明天	HANDSHAPE: Right /YI/
		LOCATION: Starts at the right temple
		MOVEMENT: Point the right temple with the index finger of the right handshape /YI/; then move the hand forward.
		VISUALIZE: It indicates that one day is in front of the observer.
	THE DAY AFTER TOMORROW 後天	HANDSHAPE: Right /ER/
		LOCATION: Starts at the right temple
		MOVEMENT: Point the right temple with the index and middle fingers of the right handshape /ER/; then move the hand forward.

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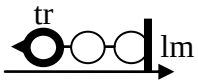
		VISUALIZE: It indicates that two days are in front of the observer.
	NEXT WEEK 下星期	HANDSHAPE: Right /QI/
		LOCATION: Starts at the right temple
		MOVEMENT: Point the right temple with the right handshape /QI/; then move the hand forward.
		VISUALIZE: The right handshape /QI/ represents seven days. It indicates that a week is in front of the observer.
	NEXT TWO WEEKS 兩個星期後	HANDSHAPE: Right /QI/; Left /QI/
		LOCATION: Starts at the temples
		MOVEMENT: Point the temples with both hands; then move the two hands forward.
		VISUALIZE: It indicates that two weeks are in front of the observer.
	FUTURE 未來	HANDSHAPE: Right /SHOU/
		LOCATION: Above the right shoulder
		MOVEMENT: Wave the right handshape /SHOU/ forward over the shoulder with the palm facing out.
		VISUALIZE: The future times are in front of the observer.
	YESTERDAY 昨天	HANDSHAPE: Right /YI/
		LOCATION: Above the right shoulder
		MOVEMENT: Wave the index finger of the right handshape /YI/ backward with the palm facing in.
		VISUALIZE: It indicates that the day is behind the observer.
	THE DAY BEFORE YESTERDAY 前天	HANDSHAPE: Right /ER/
		LOCATION: Above the right shoulder
		MOVEMENT: Wave the index and middle fingers of the right handshape /ER/ backward with the palm facing in.
		VISUALIZE: It indicates that those two days are behind the observer.

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	LAST WEEK 上星期	HANDSHAPE: Right /QI/
		LOCATION: Above the right shoulder
		MOVEMENT: Wave the right handshape /QI/ backward with the palm facing in.
		VISUALIZE: It indicates that the week is behind the observer.
	LAST TWO WEEKS 兩個禮拜前	HANDSHAPE: Right /QI/; Left /QI/
		LOCATION: Above the shoulders
		MOVEMENT: Wave both hands backward with the palms facing in.
		VISUALIZE: It indicates that those two weeks are behind the observer.
	PAST 以前	HANDSHAPE: Right /SHOU/
		LOCATION: Above the right shoulder
		MOVEMENT: Wave the right handshape /SHOU/ backward over the shoulder with the palm facing in.
		VISUALIZE: It indicates that the past times are behind the observer.

Table 2.5: The words based on the FRONT-BACK image-schema in TSL

2.5 The CYCLE image-schema

The CYCLE image-schema, proposed by Johnson (1987: 126), is founded on our bodily experience. For example, we have to maintain the bodies by means of different circulatory systems such as respiratory system, digestive system, and blood circulation. These systems need to follow a regular recurrence. That is, substances in these systems start at particular places, proceed through a sequence of organs, and then end where they start. According to Johnson (1987: 119), the pattern of the CYCLE image-schema is represented by a circular motion as shown in Figure 2.27. The movement of the cycle is in a forward moving; that is, in one direction from start to finish. Thus, the backtracking is not allowed in the circular movement.

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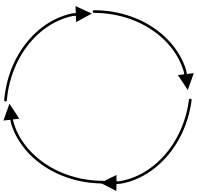

Figure 2.27: the CYCLE image-schema

As to the structural elements of the CYCLE schema, Peña (2003: 188) defines it as comprising a source, a terminal point, and directionality. In addition, she proposes the internal logic of the CYCLE image-schema, as shown in (8).

(8) a. You have to pass a series of intermediate points of the path when you go from the source to the destination in a circular path.
b. The further along the path you go, the more time has passed.
c. Once the destination has been reached, it will become the source again. So you have to go along the path again and again.

Peña (2003: 188)

Taking the structural elements and the internal logic into consideration, Peña claims that the CYCLE image-schema is the subsidiary of the PATH schema.

Apart from the circulatory systems in our bodies, the CYCLE image-schema can also be temporal cycles like weeks, seasons, and years. According to Johnson (1987: 119), the cycle begins with a certain initial state, proceeds through a sequence of connected events, and ends where it began, to start again with a recurring cyclic pattern. For instance, the seasons like spring, summer, fall, and winter occur in order and make it a cycle because the earth moves around the sun. Therefore, the CYCLE image-schema can also be mapped onto the temporal domain. Take the English sentence in (9) for example.

(9) These phenomena are associated with key points in the yearly, monthly and daily cycle, such as midsummer, full moon and midnight. (BNC)

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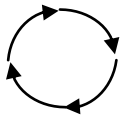
In (9), *cycle* refers to a repetition of a fixed period in which the phenomenon occurs repeatedly. Thus, midsummer occurs once a year, full moon occurs once a month, and midnight occurs once a day.

As found in spoken languages, the CYCLE image-schema can also serve as the source domain for the word formation in TSL. The word OFTEN, for example, is produced with the handshape /YI/ of each hand. The extended index fingers of both hands move in circles beside the temples, as Figure 2.28 shows. The movements of both hands indicate the repetition of events.

OFTEN
Figure 2.28

Other TSL words related to the CYCLE image-schema are given in Table 2.6. These words involve a hand moving in circles around the other hand. The circular movements indicate the repetition and the revolution of days, seasons, or years. The handshapes, locations, and movements of these words are illustrated in Table 2.6.

	YEAR 年	HANDSHAPE: Right /YI/; Left /LÜ /
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /YI/ in a complete forward circle around the left handshape /LÜ / and then stop on the top of the left.
		VISUALIZE: The right handshape /YI/ represents ONE; the left hand represents YEAR. Thus, the movement of the

		right hand indicates the revolution of one year.
	WEEK 週	HANDSHAPE: Right /YI/; Left /QI/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /YI/ in a complete circle around the left handshape /QI/.
		VISUALIZE: The right handshape /YI/ represents ONE; the left handshape /QI/ represents a WEEK. Thus, the movement of the right hand indicates the revolution of one week.
	TIME 時間	HANDSHAPE: Right /LIU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left flat hand facing right, and move the right handshape /LIU/ downward in a half circle.
		VISUALIZE: The left flat hand represents the surface of a watch, and the right index finger represents the indicator of a clock.
	CENTURY 世紀	HANDSHAPE: Right /BAI/; Left /QUAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /BAI/ in a complete circle around the left handshape /QUAN/.
		VISUALIZE: The right handshape /BAI/ represents ONE HUNDRED; the left handshape /QUAN/ stands for sun. The movement of the right hand indicates the revolution of one hundred years every century.
	SEASON 季	HANDSHAPE: Right /YI/; Left /SI/
		LOCATION: In front of the chest
		MOVEMENT: Move the index finger of the right hand in a circle around the four fingers of the left handshape /SI/.
		VISUALIZE: The left handshape /SI/ stands for the four seasons, and the movement of the right hand indicates the revolution of four seasons every year.
	OFTEN 常常	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Move the index fingers of both hands in circles beside the ears.
		VISUALIZE: The circular movement shows something never ending.

Table 2.6: The words based on the CYCLE image-schema in TSL

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2.6 The NEAR-FAR image-schema

The NEAR-FAR image-schema is derived from some distance between two or more entities. If the distance is short, it is called the NEAR image-schema; on the contrary, if the distance is long, it is so called the FAR image-schema.

The word WIDE denoting the NEAR-FAR image-schema is given in Figure 2.29, while its schematic representation is given in Figure 2.30.

WIDE
Figure 2.29

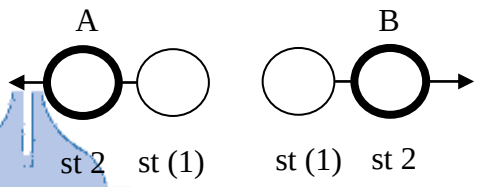

Figure 2.30

The word WIDE is produced with the handshape /SHOU/ of each hand. The hands move apart with the fingertips point upward and the palms facing each other, as Figure 2.29 shows. As shown in Figure 2.30, A and B are originally close to each other, and then they move further apart to opposite directions. Thus, the distance between A and B becomes much longer. Thus, A and B are identified with the handshape /SHOU/ of each hand respectively. In this word, the movement of the hands depicts the distance between A and B. Thus, the increasing of the distance between A and B indicates the meaning of ‘wide’.

In contrast, if the distance between the two entities is short, it denotes that the entities are close to each other. The word NARROW and its schematic representation are illustrated in Figure 2.31 and Figure 2.32, respectively.

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NARROW
Figure 2.31

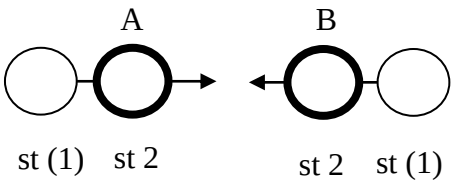

Figure 2.32

The word NARROW is produced with the handshape /SHOU/ of each hand. The two hands move close to each other with the fingertips pointing upward and the palms facing each other, as Figure 2.31 shows. As shown in Figure 2.32, A and B are originally far from each other, and then they move toward each other. Thus, A and B in the schematic representation are identified with the handshape /SHOU/ of each hand respectively. In this word, the distance between A and B becomes shorter, since A and B move toward each other. Thus, the decreasing of the distance between A and B indicates the meaning of ‘narrow’.

Other TSL words related to the NEAR-FAR image-schema are given in Table 2.7. These words are produced with the palms of both hands facing each other. When the hands move toward each other, the distance between them is getting shorter. The decreasing of the distance suggests the meaning of ‘near’. On the contrary, when the hands move far away from each other, the distance between them is getting longer. The increasing of the distance suggests the meaning of ‘far’. The handshapes, location, and movements of these words are illustrated in Table 2.7.

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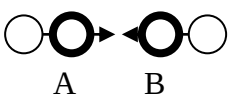	SHORT 短	HANDSHAPE: Right /LÜ/; Left /LÜ/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands closer together with the palms facing each other.
		VISUALIZE: The decreasing of the distance between the two hands indicates the meaning of ‘short’.
	NEAR 近	HANDSHAPE: Right /LÜ/; Left /LÜ/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands closer together repeatedly with the palms facing each other.
		VISUALIZE: The decreasing of the distance between the two hands indicates the meaning of ‘near’.
	TEMPORARY 短暫	HANDSHAPE: Right /LÜ/; Left /LÜ/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands closer together repeatedly with the palms facing each other.
		VISUALIZE: The decreasing of the distance between the two hands indicates that the time is short.
	NARROW 窄	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Place both hands to the front with the palms facing each other and move them closer together.
		VISUALIZE: The decreasing of the distance between the two hands indicates the meaning of ‘narrow’.

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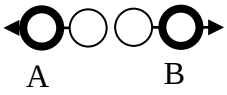
	NEAR-SIGHTEDNESS 近視	HANDSHAPE: Right /LÜ /; Left /LÜ /
		LOCATION: In front of the eyes
		MOVEMENT: Move both hands closer together with the palms facing each other.
		VISUALIZE: The decreasing of the distance between the two hands indicates that one can look at something in a short distance.
 	LONG 長	HANDSHAPE: Right /LÜ /; Left /LÜ /
		LOCATION: In front of the chest
		MOVEMENT: Move both hands apart with the palms facing each other.
		VISUALIZE: The increasing of the distance between the two hands indicates the meaning of ‘long’.
	FAR 遠	HANDSHAPE: Right /LÜ /; Left /LÜ /
		LOCATION: In front of the chest
		MOVEMENT: Move both hands apart with the palms facing each other.
		VISUALIZE: The increasing of the distance between the two hands indicates the meaning of ‘far’.
	FOREVER 永遠	HANDSHAPE: Right /LÜ /; Left /LÜ /
		LOCATION: In front of the chest
		MOVEMENT: Move both hands apart with the palms facing each other.
		VISUALIZE: The increasing of the distance between the two hands indicates that the time is long.

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	WIDE 寬	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands apart with the palms facing each other.
		VISUALIZE: The increasing of the distance between the two hands indicates that the meaning of 'wide'.
	FAR-SIGHTEDNESS 遠視	HANDSHAPE: Right /LÜ/; Left /LÜ/
		LOCATION: In front of the eyes
		MOVEMENT: Move both hands apart with the palms facing each other.
		VISUALIZE: The increasing of the distance between the two hands indicates that one can look at something in a long distance.

Table 2.7: The words based on the NEAR-FAR image-schema in TSL

2.7 Conclusion

This chapter has discussed how the PATH image-schema and its subsidiary schemas are used to explain the word formation in TSL. The subsidiary schemas include the UP-DOWN, FRONT-BACK, NEAR-FAR, and CYCLE schemas. With the trajector and landmark illustrated in the image-schematic representation, I have discussed how the words are produced in accordance with the structures of these image-schemas.

In addition, the image-schema can serve as the source domain which is mapped onto the target domains. For example, the UP-DOWN image-schema can be the source domain and be mapped onto the target domains like [QUANTITY], [QUALITY], and [STATUS]. Thus, the metaphorical mappings in this chapter are

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MORE IS UP and LESS IS DOWN, GOOS IS UP and BAD IS DOWN, and HIGH STATUS IS UP and LOW STATUS IS DOWN. The TSL words based on these metaphors are produced with the hand movements. For example, the TSL words with the metaphor MORE IS UP are produced with the upward movements of the hands such as EXPENSIVE and STORE UP, while the words with the metaphor LESS IS DOWN are produced with the downward movements such as CHEAP, WASTE, etc.

In the following chapter, I will discuss the word formation in TSL based on the FORCE image-schema, which is also subsidiary to the PATH image-schema.

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CHAPTER 3 FORCE IMAGE-SCHEMA AND WORD FORMATION IN TSL

3.1 Introduction

When interacting with the environment in everyday life, we must experience forces even though we may not have the consciousness of all. As Johnson (1987: 42) mentions, we are aware of the strong winds resisting our walking but we may not notice the force of gravity. The gravity can influence the motion of the entities on earth, while we hardly observe that.

Peña (1999, 2003) states that we will spend some time on the process and may encounter any obstacle to prevent us from reaching the goal. In order to understand the motion caused by some kind of force, we should have the knowledge of the interrelation between the FORCE and the PATH schemas. According to Johnson (1987: 43-44), the characteristics of the FORCE image-schema are illustrated in (1).

(1) a. Forces are always experienced with interactions. For example, when we enter an unfamiliar dark room, we may bump into the edge of objects like table or chair.
b. Forces involve directionality. In other words, our experience of forces presupposes that the movement of an object is moving in some direction.
c. Forces usually describe a path of motion. For example, the leaves fall down to the ground due to the gravity.
d. Forces have sources and agents to make things move to the destination.
e. Forces have degrees of intensity.
f. Forces are one way in which we understand the causes and results.

Johnson (1987: 43-44)

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Given the points above, Peña (1999, 2003) argues that forces consist of a source, directionality, and a destination. Furthermore, they trace a path when moving themselves or other entities. Therefore, she states that the FORCE image-schema is the subsidiary of the PATH schema. This chapter aims to discuss the relation of lexical formation to the Force image-schema in TSL.

The rest of the chapter proceeds as follows. From section 2.2 to section 2.6, I will discuss the word formation in TSL and the subsidiary schemas of the FORCE image-schema, including the BALANCE, COMPULSION, BLOCKAGE, COUNTERFORCE, and ATTRACTION schemas. In section 2.7, I will offer the conclusion.

3.2 The BALANCE image-schema

When two people sitting on a seesaw, they would go up and down alternatively until they find an appropriate distance between them and make the force equal on each side of the fulcrum. The schema shown in Figure 3.1 is called *seesaw* or *twin-pan* balance schema (Johnson 1987: 85).

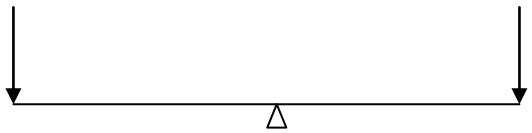

Figure 3.1: the TWIN-PAN BALANCE image-schema

In TSL, the word TEST/COMPETE and its schematic representation are illustrated in Figure 3.2 and Figure 3.3, respectively.

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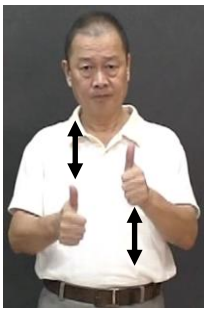

TEST/COMPETE
Figure 3.2

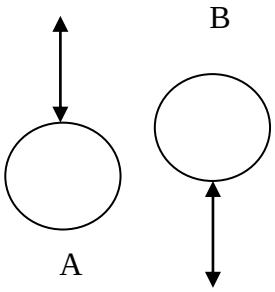

Figure 3.3

The word TEST/COMPETE is produced with the handshape /NAN/ of each hand. The extended thumbs of both hands point upward with the palms facing each other, moving up and down alternatively, as Figure 3.2 shows. As the schematic representation in Figure 3.3 shows, A and B stand for two entities and move up and down alternatively. Therefore, A and B are identified with the handshape /NAN/ of each hand respectively. Like the alternative movements of A and B, this word implies that two persons are in the process of competition.

In the interaction with the UP-DOWN image-schema, the BALANCE schema can underlie the metaphorical expression of keeping balance between good and bad. During the competition, the alternative movements of up and down indicate the exchanges of the winner and the loser. The upward handshape /NAN/ indicates the one who gets ahead of the other, and then is caught up when the other handshape /NAN/ moves higher.

Other words related to the BALANCE image-schema are given in Table 3.1. The similarity of these words is that they are produced with the hands moving up and down alternatively. The moving hands represent two entities which are endowed with forces and try to keep the forces in balance. The handshapes, locations, and movements of these words are illustrated in Table 3.1.

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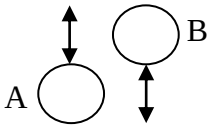	SEESAW 翹翹板	HANDSHAPE: Right /MIN/; Left /MIN/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing each other.
		VISUALIZE: It indicates that two people are sitting on a seesaw.
	TEST; COMPETE 考試; 比賽	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing each other.
		VISUALIZE: It indicates that two people are competing.
	COMPARE 比較	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing in.
		VISUALIZE: It indicates comparing two alternatives.
	ALMOST 幾乎	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing up.
		VISUALIZE: It indicates that the entity on each side is almost the same.
	BALANCE 平衡	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing down.
		VISUALIZE: It indicates that the force on each side is almost equal.

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	WEIGH 秤重	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively up and down with the palms facing down.
		VISUALIZE: The handshape /QIAN/ is a handling classifier acting as carrying entities. The weight of the entity on each side is almost the same.
	RACE 賽跑	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the hands alternatively back and forth with the palms facing each other.
		VISUALIZE: It indicates that two people are racing.

Table 3.1: The BALANCE image-schema and word formation in TSL

3.3 The COMPULSION image-schema

The COMPULSION image-schema comes from the experience of being moved by some kinds of forces like strong winds, earthquakes or concrete objects like people, bulldozers, and so on. When being pushed, one can feel that he is moving along a way where he doesn't intend to go if he is unable to resist the force. According to Johnson (1987: 45), the COMPULSION image-schema consists of an entity, certain force, a path, and directionality, as illustrated in Figure 3.4, in which F_1 stands for a force, and the white square represents an entity which is moved by the force. The black arrow is the intended directionality, while the broken arrow indicates a potential trajectory.

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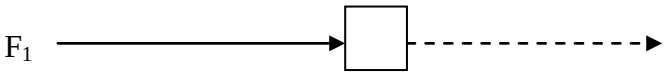

Figure 3.4: the COMPULSION image-schema

With the concepts of the COMPULSION image-schema, we can easily understand the metaphorical expressions which involve the motion. Take the English sentence in (2) for example.

(2) She no longer felt any animosity towards him and <u>was moved to</u> tenderness by his obvious misery. (BNC)

In (2), *his obvious misery* is endowed with a force which can push *she* from a status of animosity to another status of tenderness. In other words, *his obvious misery* is metaphorized as a physical force which makes *she* act in an unpredicted way.

In TSL, the word EXPEL and its schematic representation are illustrated in Figure 3.5 and Figure 3.6, respectively.

EXPEL
Figure 3.5

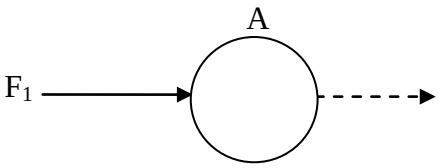

Figure 3.6

The word EXPEL is composed of the handshape /NAN/ and the handshape /SHOU/. The back of the palm of the handshape /SHOU/ pushes the handshape /NAN/ away on the little-finger edge, as Figure 3.5 shows. As shown in Figure 3.6, A is the entity pushed to move along an unintended way, and F_1 is the force which

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makes A in motion. Thus, A is identified with the handshape /NAN/, while F_1 is represented with the handshape /SHOU/. In this word, the handshape /NAN/ represents a person who is pushed away by certain force, while the handshape /SHOU/ is a medium for the force acting on the person. This sign indicates that a person is dismissed by some kind of force.

Another word PASS denoting the COMPULSION image-schema is given in Figure 3.7, while its schematic representation is given in Figure 3.8.

PASS
Figure 3.7

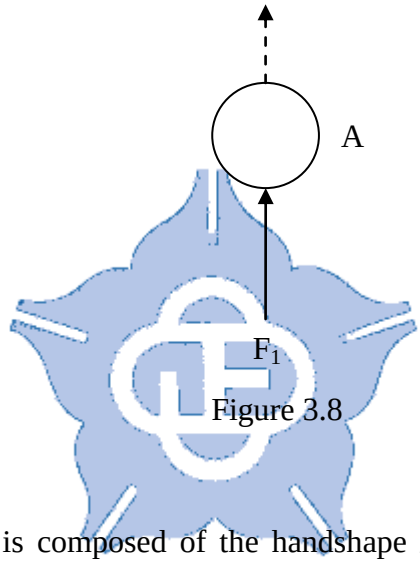

Figure 3.8

The word PASS is composed of the handshape /NAN/ and the handshape /SHOU/. The handshape /NAN/ is produced with the extended thumb pointing upward, while the handshape /SHOU/ is produced with the fingertips pointing forward and the palm facing up. The little-finger edge of the handshape /NAN/ bounces off from the palm of the handshape /SHOU/, as Figure 3.7 shows. As shown in Figure 3.8, F_1 pushes A to move upward. Thus, A is identified with the handshape /NAN/, while the F_1 is recognized with the handshape /SHOU/. In this case, the handshape /NAN/ represents a person, and the handshape /SHOU/ is a medium for the force acting on the person. This sign indicates that some kind of force pushes a person and makes him pass the tests.

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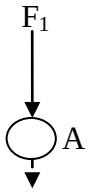
Other TSL words related to the COMPULSION image-schema are given in Table 3.2. The similarity of these words is that they are produced with one hand being pushed by the other hand. The former represents an entity pushed to move along an unintended way, while the latter stands for a force. The handshapes, locations, and movements of these words are illustrated in Table 3.2.

	PASS 及格	HANDSHAPE: Right /NAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Push the little-finger edge of the handshape /NAN/ upward with the left handshape /SHOU/ with the palm facing up.
		VISUALIZE: It indicates that a force pushes one person and encourages him to pass a test.
	ENCOURAGE 鼓勵	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the little-finger edge of the left handshape /NAN/ upward with the right handshape /SHOU/.
		VISUALIZE: It indicates that a power supports one person.
	FAIL 不及格	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the thumb of the left handshape /NAN/ downward with the right handshape /SHOU/.
		VISUALIZE: It indicates that a resistance prevents one person from doing something successfully.
	SUPPRESS 壓抑	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the thumb of the left handshape /NAN/ downward with the right handshape /SHOU/.
		VISUALIZE: It indicates a pressure on a person.

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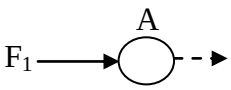
	CONQUER 克制	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the thumb of the left handshape /NAN/ downward with the right handshape /SHOU/.
		VISUALIZE: It indicates that a power overcomes difficulties.
	KICK OUT 踢出	HANDSHAPE: Right /QIAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Fillip with the middle and index fingers of the right handshape /QIAN/ on the palm of the left hand.
		VISUALIZE: The movement of the right hand indicates an action to fillip an entity away.
	ANNIHILATE 消滅	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the palm of the right handshape /SHOU/ across the palm of the left handshape /SHOU/ from wrist to fingertips.
		VISUALIZE: The movement indicates the action of rubbing something off.
	PUSH 推	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the left handshape /NAN/ forward with the right handshape /SHOU/.
		VISUALIZE: It indicates that a force pushes one person away.
	EXPEL 驅逐	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Push the left handshape /NAN/ upward with the back of the right handshape /SHOU/.
		VISUALIZE: It indicates that a force pushes one person away.

Table 3.2: The words based on the COMPULSION image-schema in TSL

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3.4 The BLOCKAGE image-schema

The BLOCKAGE image-schema is derived from the bodily experience that we bump into a wire pole while we are walking. The wire pole is a static obstacle that prevents us from reaching the destination. Thus, we may choose to stop, to go around the wire pole, or to turn back. According to Johnson (1987: 45), one must either stop or redirect its force when encountering an obstacle. The visual image of the BLOCKAGE image-schema can be represented as in Figure 3.9. The black circle is a moving entity, the white rectangular figure is an obstacle which blocks the proceeding of the entity, the black arrow represents the directionality, and the broken arrows denote potential trajectories.

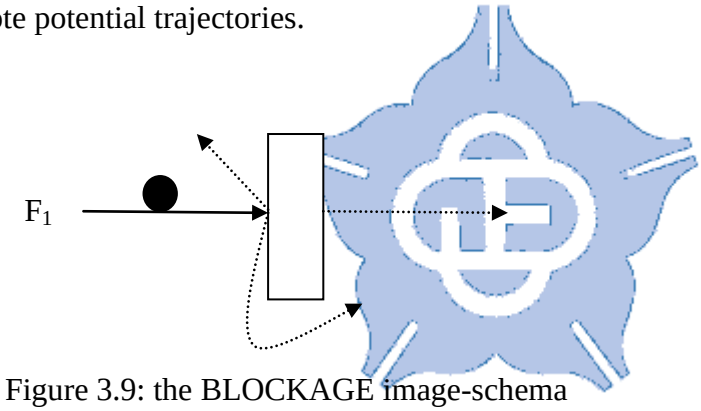

Figure 3.9: the BLOCKAGE image-schema

As shown in Figure 3.9, the entity moves toward its original direction as the black arrow until it is blocked by the barrier. Then, the barrier causes the entity either to stop or to redirect its way. That is, the entity may move back from the barrier, around it, or even through it. Each potential redirection that an entity may move will be discussed in section 3.4.1 to section 3.4.3.

3.4.1 Stopping at or turning back from the obstacle

Given the visual image of the BLOCKAGE image-schema as shown in Figure 3.9, two possible ways in which the entity may move when encountering an

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obstacle are either stop at or turn back from the obstacle. Imagining that when driving along a road, we find a falling rock blocking the only road that we can drive along. We may stop there or give up reaching the goal and turn back. This event can be conceptualized as the BLOCKAGE schema and mapped onto the event structure metaphor like DIFFICULTIES ARE IMPEDIMENTS TO MOTION. Take the Chinese sentence in (3) for example.

(3) Xiang yong bu-zhengdang shouduan facai de ren
want use improper means get-rich MOD people

chizao yao peng-bi.
sooner-or-later will hit-wall.
'Those who want to get rich by improper means will sooner or later run into a stone wall.'

(Yu 1998: 209-210)

In (3), *peng-bi* 'hit-wall' refers to the movement of running into a wall, and *bi* 'wall' is the impediment which blocks the way to the destination (Yu 1998: 210). Thus, *bi* 'wall' in this case indicates a blockage, so the further movement of the people is impossible.

As discussed above, the BLOCKAGE image-schema can also provide the basis for the metaphors in TSL. The word FRUSTRATION and its schematic representation are illustrated in Figure 3.10 and Figure 3.11, respectively.

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FRUSTRATION
Figure 3.10

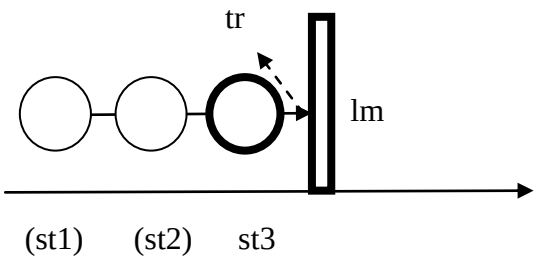

Figure 3.11

The word FRUSTRATION, as shown in Figure 3.10, is produced with the handshape /SHOU/ of each hand. The handshape /SHOU/ of the non-moving hand points aside with the palm facing in, while the other handshape /SHOU/ is produced with the fingertips of the moving hand which repeatedly thrust the palm of the other hand. As shown in Figure 3.11, the TR is a moving entity, and the LM is an obstacle which blocks the TR's proceeding, the black arrow is the TR's directionality, while the broken arrow is the potential trajectory that TR may move when encountering the LM. Thus, the TR is identified with the handshape /SHOU/ of the moving hand, while the LM is represented with the handshape /SHOU/ of the non-moving hand. The movement of the handshape /SHOU/ and the blockage of the other hand accord with the schematic representation as shown in Figure 3.11. In this word, the handshape /SHOU/ of the non-moving hand acts as a wall, while the handshape of the moving hand stands for a person. This sign indicates that one wants to reach his destination, but there is an obstacle which blocks his proceeding.

Other TSL words related to the BLOCKAGE image-schema are given in Table 3.3. The similarity of these words is that they are produced with the moving hand and the non-moving hand. The non-moving hand represents an obstacle, while the moving hand represents a moving entity which is blocked by the obstacle. The handshapes, locations, and movements of these words are illustrated in Table 3.3.

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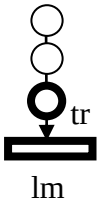
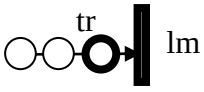
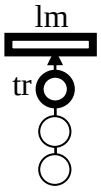
	STOP 停止	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Strike the little-finger side of the right handshape /SHOU/ downward sharply on the left palm.
		VISUALIZE: The left hand stands for a barrier which stops the proceeding of the right hand.
	REFUSE; REJECT 拒絕; 駁回	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the fingertips of the right hand toward the head; in the meantime raise the left hand to prevent the right hand from going on.
		VISUALIZE: The left hand stands for a barrier which stops the proceeding of the right hand.
	FRUSTRATION 挫折	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Thrust the fingertips of the right handshape /SHOU/ into the palm of the left handshape /SHOU/ and then spring back.
		VISUALIZE: The left handshape /SHOU/ represents a wall, while the right hand as a moving entity tries to go out but is blocked by the wall.
	STOP TALKING 住口	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left palm facing down in front of the chest; then strike the left palm with the fingertips of the right flat hand.
		VISUALIZE: The left hand stands for a

		barrier which stops the proceeding of the right hand.
	ILLEGAL 違規	HANDSHAPE: Right /YI/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left flat hand facing down; then strike the left palm with the right handshape /YI/.
		VISUALIZE: The movement of the right handshape /YI/ indicates the resistance to the law.

Table 3.3: The words based on the BLOCKAGE image-schema in TSL (stopping at or turning back from the obstacle)

3.4.2 Going through the obstacle

When encountering an obstacle, another possible direction that an entity may move is to go through the obstacle. For example, people would tunnel through solid rock when their proceeding is blocked by a mountain. The Chinese example is given in (4).

(4) Ta juexin chongpo yiwang de shenghuo fanli,
he determined break past MOD life hedge

chuang yifan shiye.
create a cause
'He was determined to break the life hedge of the past, and create a cause.'
(Yu 1998: 209)

In (4), *yiwang de shenghuo fanli* (past MOD life hedge) 'the life hedge of the past' indicates a blockage in the path, so the way to move further is to break through the blockage and then create another way to go further (Yu 1998: 209).

In TSL, the word PENETRATE and its schematic representation are illustrated in Figure 3.12 and Figure 3.13, respectively.

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PENETRATE
Figure 3.12

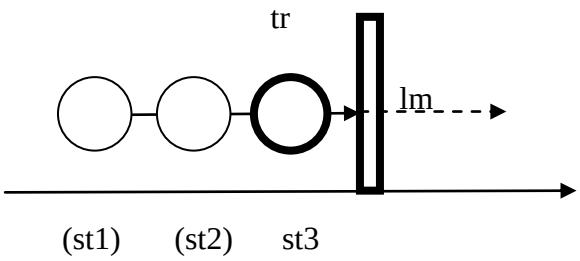

Figure 3.13

The word PENETRATE is composed of the handshape /WU/ and the handshape /YI/. The handshape /WU/ is produced with the fingertips of the non-moving hand which point upward with the palm facing in, while the handshape /YI/ is produced with the extended index finger of the moving hand which moves through the intervening space between the index and the middle fingers of the handshape /WU/, as Figure 3.12 shows. As shown in Figure 3.13, the TR goes through the LM and keeps moving in the original direction. In this case, the TR is identified with the index finger, while the LM is represented with the five fingers of the other hand which are viewed as a whole entity. In accordance with the TR moving through the LM, the handshape /YI/ moves through the handshape /WU/. In this word, the index finger of the handshape /YI/ represents a line of vision, and the fingers of the handshape /WU/ represent a barrier which covers the truth. Thus, this sign indicates that the line of vision breaks through the barrier and discovers the truth.

Other TSL words related to the BLOCKAGE image-schema are given in Table 3.4. These words are composed of the non-moving hand and the moving hand. The non-moving hand in these words represents an obstacle, while the moving hand represents an entity which moves through the obstacle. The handshapes, locations, and movements of these words are illustrated in Table 3.4.

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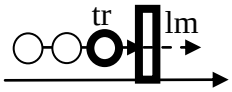	UNIQUE 特別	HANDSHAPE: Right /YI/; Left /WU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /WU/ with the palm facing down; then slide the index finger of the right hand upward between the index and middle fingers of the left hand.
		VISUALIZE: The index finger indicates that one is extremely outstanding beyond the ordinary.
	INTERFERE 干涉	HANDSHAPE: Right /SHOU/; Left /WU/
		LOCATION: In front of the chest
		MOVEMENT: Pass the little-finger edge of the right flat hand forward between the index and middle fingers of the left hand.
		VISUALIZE: It indicates going through the boundary and getting involved in other's business.
	PENETRATE 識破真相	HANDSHAPE: Right /YI/; Left /WU/
		LOCATION: In front of the chest
		MOVEMENT: Hold up the left handshape /WU/ with the palm facing inside. Then slide the index finger of the right hand forward between the index and middle fingers of the left hand.
		VISUALIZE: It indicates passing through an obstacle which covers the truth.

Table 3.4: The words based on the BLOCKAGE image-schema in TSL (going through the obstacle)

3.4.3 Detouring around the obstacle

Another possible redirection in which the entity may move is to detour around the obstacle. For example, we would make a detour around a chair when the chair is in our way. Or we may choose to drive along another road when there is a roadblock on the road.

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In TSL, the word JUMP A QUEUE and its schematic representation are illustrated in Figure 3.14 and Figure 3.15, respectively.

JUMP A QUEUE
Figure 3.14

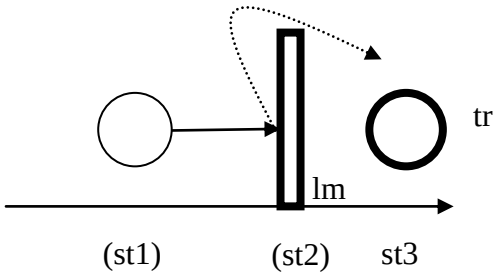

Figure 3.15

The word JUMP A QUEUE is produced with the handshape /SHOU/ and the handshape /YI/. The handshape /SHOU/ is produced with the fingertips of the non-moving hand which point upward with the palm facing aside, while the other handshape /YI/ is produced with the extended index finger of the moving hand which points upward. At first the extended index finger of the handshape /YI/ is located behind the thumb-edge of the handshape /SHOU/, and then it moves forward to be located at the little-finger edge, as Figure 3.14 shows. As shown in Figure 3.15, when the TR is blocked by the LM, the TR can cross around the obstacle and keeps moving in the original direction. Therefore, the TR is identified with the handshape /YI/, while the LM is represented with the handshape /SHOU/. In this word, the fingers of the handshape /WU/ represent the crowd, while the index finger of the handshape /YI/ locating behind the other hand represents someone waiting behind these people. When the index finger moves around the other hand, it means that the person goes around the crowd to jump the queue.

Other TSL words related to the BLOCKAGE image-schema are given in Table 3.5. These words are produced with the moving hand and the non-moving hand.

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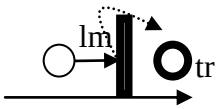
The non-moving hand represents an obstacle, while the moving hand represents a moving entity which crosses the obstacle. The handshapes, locations, and movements of these words are illustrated in Table 3.5.

	JUMP A QUEUE 插隊	HANDSHAPE: Right /YI/; Left /WU/
		LOCATION: In front of the chest
		MOVEMENT: Place the left handshape /WU/ with the palm facing aside; put the right handshape /YI/ between the chest and the left hand. Then move the right handshape /YI/ to the little-finger edge of the left hand.
		VISUALIZE: The fingers of the left hand suggest people lined up, and the index finger of the right hand indicates one person passing around from behind the crowd.
	CROSS 經過	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Point the left handshape /SHOU/ to the right with the palm facing down; then slide the little-finger edge of the right handshape /SHOU/ forward over the left knuckles.
		VISUALIZE: The right handshape /SHOU/ represents a moving entity which crosses a barrier.
	STIRDE ACROSS 跨越	HANDSHAPE: Right /ER/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Point the left handshape /YI/ to the right with the palm facing in; then slide the right handshape /ER/ with the fingers pointing down forward over the left hand.
		VISUALIZE: The right index and middle

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		fingers represent a person's legs and the left index finger refers to a barrier like a door threshold.
	EXCEED 超過	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Pass the right handshape /NAN/ forward from behind the left handshape /NAN/.
		VISUALIZE: It indicates that a person who originally fell behind the other and then exceeded him.

Table 3.5: The words based on the BLOCKAGE image-schema in TSL (detouring around the obstacle)

3.4.4 Summary

I have discussed the word formation in TSL based on the three kinds of the BLOCKAGE image-schematic structures. That is, an entity may move back, move through, or move around the obstacle when encountering an obstacle (Johnson 1987). In the following section, I will investigate the COUNTERFORCE image-schema which is one of the subsidiaries of the FORCE image-schema.

3.5 The COUNTERFORCE image-schema

The CONTERFORCE image-schema emerges from the bodily experiences like two cars bumping into each other. Johnson (1987: 46) defines such a force gestalt as 'two equally strong, nasty, and determined force centers that collide face-to-face, with the result that neither can go anywhere.' According to Johnson (1987: 46), the visual image of the COUNTERFORCE schema can be represented as in Figure 3.16. It comprises two equally strong forces like F_1 and F_2, a path, and two directionalities. Therefore, when two cars are bumping together, they should be equipped with equally strong forces and drive along a path with two directionalities opposite to each other.

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Otherwise, one would either keep on driving or be bumped away if it has stronger or weaker force than the other does. The English example is given in (5).

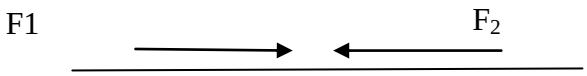

Figure 3.16: the COUNTERFORCE image-schema

(5) Tempers exploded at breakfast time after Rosemary and Carssier who had feuded for a month accidentally bumped into each other …. (BNC)

In (5), the phrase *bumped into* can be conceptualized as two persons meeting each other by chance, and the feud between them brought them the forces of animosity which result in explosion after they see each other.

In TSL, the word FIGHT denoting the COUNTERFORCE image-schema is given in Figure 3.17, while its schematic representation is given in Figure 3.18.

FIGHT
Figure 3.17

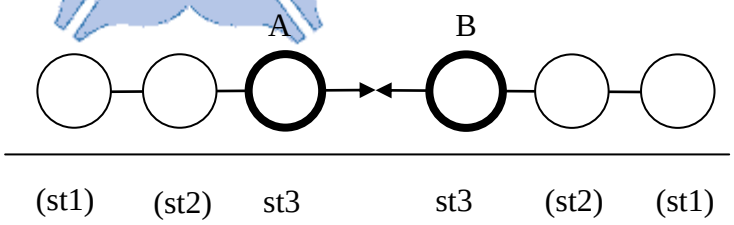

Figure 3.18

The word FIGHT, as Figure 3.17 shows, is produced with the handshape /QUAN/ of each hand. The two hands strike the knuckles of each other several times. As the schematic representation in Figure 3.18 shows, the circles in bold are the appearances of the moving entities A and B, and the black arrows refer to two

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directionalities. The moving entities A and B are endowed with equally strong forces and move in opposite directions. Thus, A and B are identified with the handshape /QUAN/ of each hand respectively. In this word, the handshape /QUAN/ represents one's fist. It indicates that there are two people using their fists to fight with each other.

Another word ENEMY and its schematic representation are illustrated in Figure 3.19 and Figure 3.20, respectively.

ENEMY
Figure 3.19

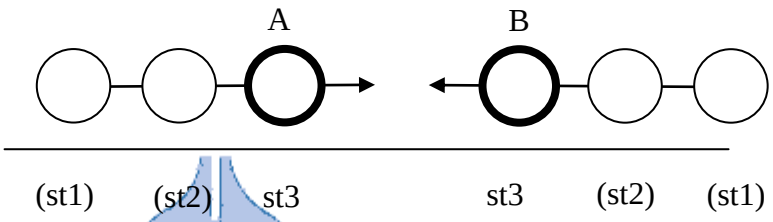

Figure 3.20

For example, the word ENEMY is composed of the handshape /NÜ / of each hand, as shown in Figure 3.19. The extended little finger of the handshape /NÜ / points at each other. The handshape /NÜ / of each hand is motivated by something associated with negative meanings like enmity or hostility. As shown in Figure 3.20, A and B move in opposite directions but they do not contact in the end. In accordance with the movements of A and B, this word indicates that the two entities are in opposition symbolically but do not have any physical conflict.

Other TSL words involving a COUNTERFORCE image-schema are CAR ACCIDENT, CONFLICT, QUARREL, etc. The similarity of these words is that the moving hands represent two entities endowed with two equally strong forces. Then the two hands collide with each other. The handshapes, movements, and locations of

these words are illustrated in Table 3.6.

	CAR ACCIDENT 車禍	HANDSHAPE: Right /SHEN/; Left /SHEN/
		LOCATION: In front of the chest
		MOVEMENT: Strike the fingertips of each handshape /SHEN/ to each other.
		VISUALIZE: It indicates that two cars bumped into each other.
	FIGHT 打架	HANDSHAPE: Right /QUAN/; Left /QUAN/
		LOCATION: In front of the chest
		MOVEMENT: Strike the knuckles of each handshape /QUAN/ to each other.
		VISUALIZE: It indicates that two people fight each other with their fists.
	CONFLICT 衝突	HANDSHAPE: Right /MIN/; Left /MIN/
		LOCATION: In front of the chest
		MOVEMENT: Strike the thumb of each handshape /MIN/ to each other.
		VISUALIZE: It indicates that two people hit each other with their heads.
	ENEMY 敵人	HANDSHAPE: Right /NÜ /; Left /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Point the little finger of each handshape /NÜ / to each other.
		VISUALIZE: It indicates that two people are in opposition.
	DEBATE 辯論	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Point the index finger of each hand to each other; then move them forward in circle.
		VISUALIZE: Each index finger represents one side of debaters. It indicates that two sides of people are debating.

Table 3.6: The words based on the COUNTERFORCE image-schema in TSL

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3.6 The ATTRACTION image-schema

The ATTRACTION image-schema, proposed by Johnson (1987), is derived from the physical experience that one entity is drawn toward another entity due to some forces such as gravity or magnetism. These abstract forces can be used to underlie metaphorical expressions like the power of love. When people fall in love, they cannot control themselves but are attracted to each other. In addition to love, we also hardly resist the enticements of things that are beneficial to us such as money and power.

According to Peña (1999: 202), the ATTRACTION schema consists of a source, a destination, a directionality, and a certain force which causes entity to move toward another entity. The visual image of the ATTRACTION schema can be represented as in Figure 3.21, in which A and B refer to two entities, the black arrow stands for directionality. There is a force which causes A to move toward B. The English example is given in (6).

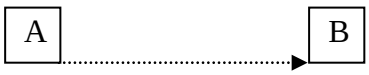

Figure 3.21: the ATTRACTION image-schema

(6) Something about him drew me to him. (Peña 1999: 202)

According to Peña (1999: 202), in (6) *something about him* indicates that the man is endowed with a stronger force, while *me* is attracted to the stronger entity. Thus, the destination of the path is *him*.

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The word FOLLOW denoting the ATTRACTION image-schema is given in Figure 3.22, while its schematic representation is given in Figure 3.23.

FOLLOW
Figure 3.22

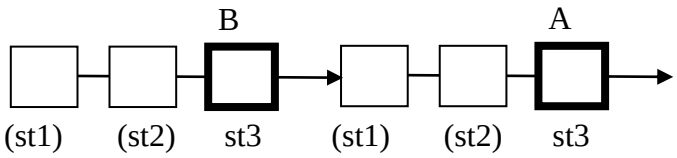

Figure 3.23

The word FOLLOW is composed of the handshape /NAN/ of each hand. One handshape /NAN/ is produced with the extended thumb of the moving hand, while the other handshape /NAN/ is produced with the extended thumb which is located lower than the other. Both hands move forward together, as Figure 3.22 shows. As shown in Figure 3.23, A and B represent two entities, and the black arrows stand for the directionality. Thus, A is identified with the handshape /NAN/, which is moving ahead, while B is represented with the other handshape /NAN/, which follows the other hand. In this word, the thumb placed in the higher position represents a leader, while the other one represents the follower. This sign indicates that the follower goes after the leader.

Take the word ATTRACTIVE for another example, as Figure 3.24 shows. It is composed of the handshape /NAN/ and the handshape /TONG/. The handshape /NAN/ is produced with the extended thumb of one hand which points upward, while the handshape /TONG/ is produced with the five fingers of the other hand bent with the palm facing the handshape /NAN/, closing and opening alternatively. In the meantime, the handshape /TONG/ moves back and forth, while the handshape /NAN/

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follows its movements. As shown in Figure 3.25, A is identified with the handshape /TONG/, while B is identified with the handshape /NAN/. In this case, the handshape /NAN/ represents a person, and the alternative movements of the handshape /TONG/ indicate some kind of power which attracts the person to follow it.

ATTRACTIVE
Figure 3.24

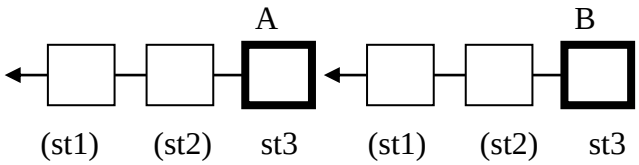
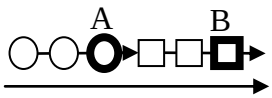


Figure 3.25

Other TSL words related to the ATTRACTION image-schema are INDUCE, CURIER, CHASE, etc. In these words, a hand represents one person endowed with certain power, while the other hand represents another person attracted by him. The handshapes, movements, and locations of these are illustrated in Table 3.7.

	INDUCE 引誘	HANDSHAPE: Right /YI/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Bend the index finger of the right handshape /YI/ toward the handshape /NAN/.
		VISUALIZE: It indicates that certain kind of magic power is beckoning a person to follow it.
	ATTRACTIVE 吸引	HANDSHAPE: Right /TONG/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /TONG/ back and forth with the palm facing the left handshape /NAN/; in the meantime

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		open and close the hand alternatively.
		VISUALIZE: It indicates sending out some kind of magic power and attracting a person to follow it.
	FOLLOW 跟隨	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /NAN/ behind the left handshape /NAN/.
		VISUALIZE: One person follows the leader.
	COURIER 導遊	HANDSHAPE: Right /WU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the left handshape /NAN/ forward; then point the fingers of the right handshape /WU/ to the thumb with the palm facing down.
		VISUALIZE: It indicates that the people follow the courier.
	CHASE 追	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Put the right handshape /YI/ behind the left handshape /YI/; then move them forward together.
		VISUALIZE: The handshape /YI/ represents a person. Thus, it indicates that one person chases the other.
	男追女	HANDSHAPE: Right /NAN/; Left /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Put the right handshape /NAN/ behind the left handshape /NÜ /; then move them forward together.
		VISUALIZE: The right handshape /NAN/ represents a man; the left handshape /NÜ / represents a woman. It indicates that a man is pursuing a woman.

Table 3.7: The words based on the ATTRACTION image-schema in TSL

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3.7 Conclusion

This chapter has discussed the TSL word formation related to the FORCE image-schema and its subsidiary schemas, including the BALANCE, COMPULSION, BLOCKAGE, COUNTERFORCE, and ATTRACTION schemas. The structural elements of the FORCE image-schema are a source, a destination and directionality. These structures of the FORCE image-schema can be represented with the handshapes, movements, and locations of the TSL words. For example, the words with the BALANCE image-schemas involve the two hands moving up and down such as TEST, BALANCE, etc. The alternative upward and downward movements indicate that two entities are trying to keep in balance. Based on the COMPULSION image-schemas, the words are produced with one hand being pushed by the other hand such as PRESS, PUSH, and FAIL. Since image-schemas can constitute the forms of the representations which are similar to the meanings of the TSL words, these image-schematic structures can be used to explain the TSL word formation.

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CHAPTER 4 CONTAINER IMAGE-SCHEMA AND WORD FORMATION IN TSL

4.1 Introduction

The CONTAINER image-schema is derived from physical experiences; for example, our bodies can be viewed as containers or as objects in containers (Johnson 1987: 21; Lakoff 1987: 272; Krzeszowski 1993: 314). In the former case, our bodies are like three-dimensional containers where we can breathe air, eat food, and drink water (Johnson 1987: 21). In the latter case, our bodies can be viewed as objects in containers like rooms, houses, or buildings. Thus, we can sleep in the bedroom, go out of the house, and walk into a building.

The CONTAINER image-schema can provide the basis for the metaphorical expressions. The source domain [CONTAINER] can be mapped onto the target domains like [BODY], [MIND], and [CHEST], and it gives rise to the metaphors such as BODY IS A CONTAINER, MIND IS A CONTAINER, and CHEST IS A CONTAINER. They will be discussed with the examples in TSL in sections 4.3.1 to 4.3.3.

4.2 The CONTAINER image-schema

The structural elements of the CONTAINER image-schema are an interior, a boundary, and an exterior as shown in Figure 4.1 (Johnson 1987; Lakoff 1987, 1989, 1990). In the structure, the circle consists of the interior which is the area within the boundary and the boundary itself; the exterior is the area outside the boundary. Besides, the basic logic of the schema is that if container A is in container B, and C is

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in A, then C is in B (Lakoff 1989: 272), as shown in Figure 4.2.

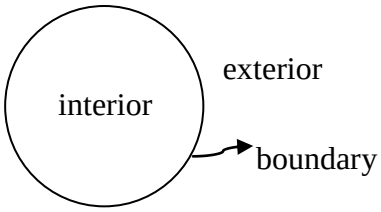

Figure 4.1: The structural elements of the CONTAINER schema

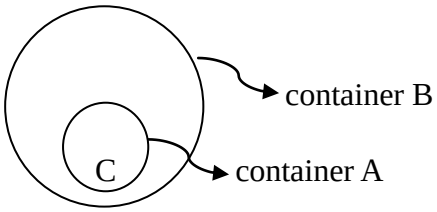

Figure 4.2: The basic logic of the CONTAINER schema

For example, the word IN denoting the CONTAINER image-schema is given in Figure 4.3, while its schematic representation is given in Figure 4.4.

IN

Figure 4.3

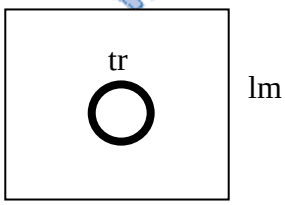

Figure 4.4

The word IN is composed of the handshape /SHOU/ and the handshape /TONG/.[7] The handshape /SHOU/ is produced with the fingertips of the non-moving

[7] The research on signed languages has shown that there is no preposition in ASL and TSL (Valli and Lucas 2000; Sandler and Lillo-Martin 2006; Tai 2008). The words IN and OUT discussed here are

hand which point aside with the palm facing in, while the handshape /TONG/ is produced with the five fingers of the moving hand bent with the palm facing down. Then the handshape /TONG/ moves downward the position between the chest and the handshape /SHOU/, as Figure 4.3 shows. In this word, the handshape /SHOU/ is motivated by showing one side of the boundaries, while the handshape /TONG/ stands for an entity. The schematic representation of the CONTAINER image-schema is illustrated in Figure 4.4. The circle in bold is the TR which stands for an entity, while the square is the LM which represents a container. As the TR is inside the LM, it means that the entity is inside the container. Therefore, the TR is identified with the handshape /TONG/, while the LM is recognized with the handshape /SHOU/. In accordance with the TR locating inside the LM, this sign indicates that the entity is inside the container.

In contrast, if the TR is outside the LM, it means that the entity is outside the container. For example, the word OUT and its schematic representation are illustrated in Figure 4.5 and Figure 4.6, respectively.

OUT
Figure 4.5

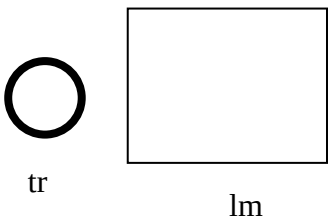

Figure 4.6

produced without explicit morphemes.

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The word OUT is composed of the handshape /SHOU/ of each hand. One handshape /SHOU/ is produced with the fingertips of the non-moving hand which point aside with the palm facing in, while the handshape /SHOU/ is produced with the fingertips of the moving hand which point up with the palm facing forward. Then the handshape /SHOU/ of the moving hand moves outward, as Figure 4.5 shows. In this word, the handshape /SHOU/ of the non-moving hand stands for one side of the boundaries, while the handshape /SHOU/ of the moving hand stands for an entity. In accordance with the schematic representation in Figure 4.6, the TR is identified with the handshape /SHOU/ of the moving hand, while the LM is represented with the handshape /SHOU/ of the non-moving hand. Thus, as the TR is outside the LM, this sign indicates that the entity is outside the container.

Another word ENTRANCE and its schematic representation are illustrated in Figure 4.7 and Figure 4.8, respectively.

ENTRANCE

Figure 4.7

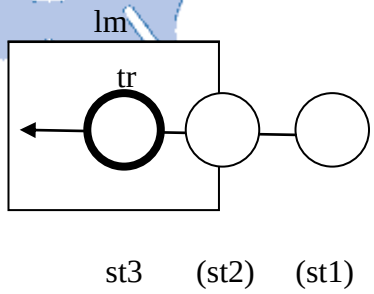

Figure 4.8

The word ENTRANCE is composed of the handshape /SHOU/ and the handshape /NAN/. The handshape /SHOU/ is produced with the fingertips of the non-moving hand which point aside with the palm facing down, while the handshape /NAN/ is produced with the extended thumb of the moving hand which points inward with the palm facing down. Then the handshape /NAN/ moves inward to the position

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under the handshape /SHOU/, as Figure 4.7 shows. As the schematic representation in Figure 4.8 shows, the TR moves from outside into the LM. Thus, the TR is identified with the handshape /NAN/, which represents a person, while the LM is represented with the handshape /SHOU/, which stands for the upper side of the container. Thus, this sign indicates that a person moves into the container.

In contrast, if the TR moves out of the LM, it means that the person moves out of the container. The word EXIT, as in Figure 4.9, is composed of the handshape /SHOU/ and the handshape /NAN/. The handshape /NAN/ is produced with the extended thumb of the moving hand which points outward with the palm facing up. The handshape /NAN/ is originally located under the handshape /SHOU/ and then moves outward. As shown in Figure 4.10, the TR is identified with the handshape /NAN/, while the LM is represented with the handshape /SHOU/. Thus, this sign indicates that a person moves out of the container.

EXIT

Figure 4.9

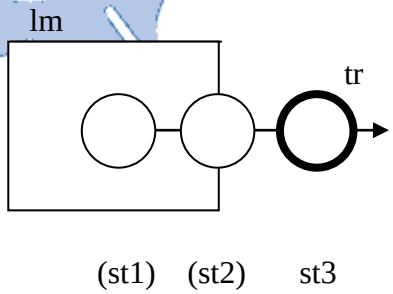

Figure 4.10

Other TSL words related to the CONTAINER image-schema are given in Table 4.1. These various patterns of the CONTAINER image-schema include a motionless state and a dynamic state. In the motionless state, the TR is either inside or outside the LM, while in the dynamic state the TR can move into the LM or move out of it. In these words, the LM is identified with the non-moving hand which acts as a

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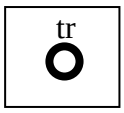
container, whereas the TR is identified with the other hand which represents an entity. The handshapes, locations, and movements of these words are illustrated in Table 4.1.

	In 裡面	HANDSHAPE: Right /TONG/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing in; then move the right handshape /TONG/ downward between the left hand and the chest.
		VISUALIZE: It indicates that the entity is inside the container.
	PROTECT 保護	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Place the left handshape /NAN/ in front of the chest with the palm facing in, and then use the right hand to touch the back of the left hand.
		VISUALIZE: The left handshape /NAN/ represents a person; the right hand covers the left as putting him in the container and protecting him.
	KEEP 保留	HANDSHAPE: Right /QUAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ in front of the chest, and then move the right fist down to the palm of the left hand.
		VISUALIZE: It indicates that an entity is kept in the container.
	OUT 外面	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing in; then move the right handshape /SHOU/ forward.
		VISUALIZE: It indicates that the entity is outside the container.

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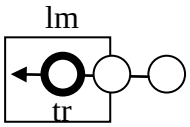
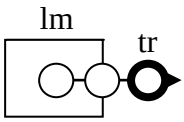
	ENTRANCE 進入	HANDSHAPE: Right /NAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing down; then move the right handshape /NAN/ inward to the position under the left hand.
		VISUALIZE: It indicates that a person moves into the container.
	FILE 存檔	HANDSHAPE: Right /WAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing down; then move the right handshape /WAN/ inward under the left hand.
		VISUALIZE: It indicates that storing something into the container.
	STOREHOUSE 倉庫	HANDSHAPE: Right /FANG/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ facing right slantingly; then move the right handshape /FANG/ inward under the left hand.
		VISUALIZE: The left hand represents a slanting roof, and the right hand represents something hold by the hand. It indicates that things are moved into the storehouse.
	GARAGE 車庫	HANDSHAPE: Right /SHEN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ facing right slantingly; then move the right handshape /SHEN/ inward under the left hand.
		VISUALIZE: The left hand represents a slanting roof, and the right hand represents a car. It indicates that a car is parking into the garage.

	PARTICIPATE 參加	HANDSHAPE: Right /YI/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /TONG/ with the palm facing up; then move the right handshape /YI/ into the palm of the left hand.
		VISUALIZE: It indicates that a person joins the crowd.
	EXIT 出口	HANDSHAPE: Right /NAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing down; then move the right handshape /NAN/ outward.
		VISUALIZE: It indicates that a person moves out of the container.
	ESCAPE 逃	HANDSHAPE: Right /ZONG/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ with the palm facing down; then move the right handshape /ZONG/ outward.
		VISUALIZE: It indicates that a person is running out of the container.
	MOVE HOUSE 搬家	HANDSHAPE: Right /SHOU/; Left /FANG/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left hand facing right slantingly, and place the right handshape /FANG/ under the left palm. Then move the right hand rightward.
		VISUALIZE: The left flat hand represents a slanting roof, and the right hand represents something hold by the hand. It indicates that things are moved out of the house.
	SON 兒子	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Draw out the right handshape /NAN/ out of the left handshape /NAN/ from the little-finger edge; then swing the thumb.
		VISUALIZE: The right handshape /NAN/

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		represents a boy, while the left handshape /NAN/ represents a person. The boy came out of a person's body indicates he is the person's son.
	DAUGHTER 女兒	HANDSHAPE: Right /NÜ /; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Draw out the right handshape /NÜ / out of the left handshape /NAN/ from the little-finger edge; then swing the little finger.
		VISUALIZE: The right handshape /NÜ / represents a girl, while the left handshape /NAN/ represents a person. The girl came out of a person's body indicates she is the person's daughter.

Table 4.1: The words based on the CONTAINER image-schema in TSL

4.3 BODY PARTS ARE CONTAINERS

4.3.1 BODY IS A CONTAINER

As mentioned above, our bodies can be viewed as three-dimensional containers. We can eat food and drink into the body by mouth, hear sounds through ears, and smell scents with the nose. In the same way, we can make something out of the bodies like speak, cry, and vomit. Therefore, the mouth, ears, nose, and eyes can be conceptualized as the places where the container can be opened or closed. Take the English sentence in (1) for example.

(1) I want to shout out and stop her, but I can't get no sound out. (BNC)

In (1), the phrase *shout out* mentioned in the first clause indicates that the subject wants to say something out loud, and the *sound* in the second clause is the object which the subject wants to produce. In this case, the person's body is the

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container and the sound is the object moving out of the container. Therefore, the sound can be expelled out of the body from the mouth.

As discussed above, the CONTAINER image-schema can also provide the basis for the word formation in TSL. For example, the word EAT denoting the CONTAINER image-schema is given in Figure 4.11, while its schematic representation is given in Figure 4.12.

EAT

Figure 4.11

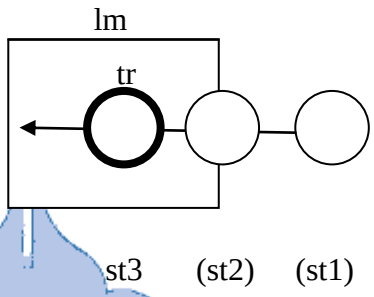

Figure 4.12

The word EAT is produced with the handshape /WAN/ which is signed with the five extended fingers touching together. Then the handshape /WAN/ moves toward the mouth, as Figure 4.11 shows. The handshape /WAN/ of the moving hand is a handling classifier which is motivated by describing the way of holding an entity.[8] Thus, as the schematic representation in Figure 4.12 shows, the TR is moving into the LM. The TR is identified with the entity which is held by the handshape /WAN/, while the LM is represented with the signer's body.

Other TSL words related to the metaphor BODY IS A CONTAINER are SMELL, SPIT, EAT MEAL, etc. These words are produced with the hand moving

[8] Handling classifiers refer to that the handshape used according to the size and shape of the entity being held with hand (Brennan 1992). For example, the handshape /QIAN/ stands for holding a piece of paper.

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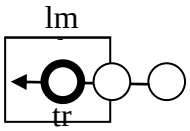
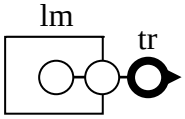
near the signer's ears, eyes, nose, and mouth which act as the exits and entrances of the body. The handshapes, locations, and movements of these words are illustrated in Table 4.2.

	EAT 吃	HANDSHAPE: Right /WAN/
		LOCATION: In front of the mouth
		MOVEMENT: Move the fingers of the right handshape /WAN/ to the signer's mouth a few times.
		VISUALIZE: The movement of the right hand indicates the way to eat.
	EAT MEAL 吃飯	HANDSHAPE: Right /JIU/; Left /TONG/
		LOCATION: In front of the mouth
		MOVEMENT: Hold the left handshape /TONG/ with the palm facing up and move the right handshape /JIU/ toward the mouth in a few times.
		VISUALIZE: The left handshape /TONG/ represents a bowl, and the movement of the right hand indicates gathering rice into the mouth.
	SMELL 聞	HANDSHAPE: Right /ER/
		LOCATION: In front of the nose
		MOVEMENT: Move the right handshape /ER/ toward the nose with the fingertips pointing up.
		VISUALIZE: It indicates that the scents are smelled into the nose.
	SPIT 吐	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the mouth
		MOVEMENT: Move the right hand forward from the mouth.
		VISUALIZE: The movement of the right hand indicates that something is out of the mouth.
	RUNNY NOSE 流鼻涕	HANDSHAPE: Right /ER/
		LOCATION: In front of the nose
		MOVEMENT: Draw the right handshape /ER/ downward from the nose.
		VISUALIZE: The movement of the hand indicates the nasal mucus flow out of the nose.

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	VISIT 拜訪	HANDSHAPE: Right /ER/
		LOCATION: In front of the eyes
		MOVEMENT: Hold the index and middle fingers of the right handshape /ER/ in front of the eyes and then move forward.
		VISUALIZE: The right handshape /ER/ represents the lines of vision. It indicates that the lines reach the one who is visited.
	SEE 見	HANDSHAPE: Right /ER/
		LOCATION: In front of the eyes
		MOVEMENT: Move the index and middle fingers of the right handshape /ER/ forward from the eyes.
		VISUALIZE: The right hand represents the lines of vision which comes out from the eyes.

Table 4.2: The words based on the metaphor BODY IS A CONTAINER in TSL

4.3.2 MIND IS A CONTAINER

In addition, the mind can also be a container in which we put knowledge, thoughts, and feelings. By mapping the source domain [CONTAINER] onto the target domain [MIND], it can extend the metaphor MIND IS A CONTAINER. The English sentence is given in (2).

(2) If someone is missing, you must stop thinking about <u>them</u>, you must put them out of your <u>mind</u>. (BNC)

In (2), *mind* is conceptualized as a container, and *them* are understood as objects which stay inside the container. Therefore, the subject is thinking about them because these objects occupy her mind. So the way to stop thinking about *them* is moving these objects out of the container, namely, *mind*.

Apart from spoken languages, the metaphor MIND IS A CONTAINER is also prominent in signed languages. Related studies can be found in Wilcox (2000)

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and Taub (2001) in ASL, Sutton-Spence and Woll (1999) in BSL, Johnston and Schembri (2007) in AUSLAN, and Su (2004) in TSL. In ASL, for example, signers imagine that the events related to cognitive activities occur in the head. Therefore, the location of the words near the head refers to cognitive activities such as REMEMBER, UNDERSTAND, and KNOWLEDGE (Wilcox 2000: 107).

In TSL, the word REMEMBER and its schematic representation are illustrated in Figure 4.13 and Figure 4.14, respectively.

REMEMBER
Figure 4.13

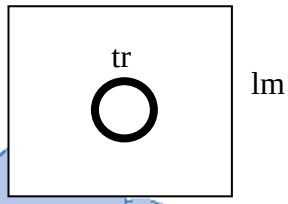

Figure 4.14

The word REMEMBER is produced with putting the handshape /QUAN/ on the right side of the head, as Figure 4.13 shows. In this word, there are two metaphors involved: the metaphor MIND IS A CONTAINER and the metaphor IDEAS ARE OBJECTS TO BE MANIPULATED OR PLACED.[9] As shown in Figure 4.14, the circle in bold is the TR which stands for an entity, while the square is the LM which represents a container. The TR is inside the LM. Thus, the LM is identified with the head, which represents the mind, while the TR is identified with the ideas. The ideas are conceptualized as objects and can be grasped in the hand. Therefore, the

[9] According to Wilcox (2000:116), if the ideas are metaphorically understood as objects, they can be manipulated, placed, or grasped. The metaphor is known as IDEAS ARE OBJECTS TO BE MANIPULATED OR PLACED.

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handshape /QUAN/ is motivated by mimicking the action of grasping ideas in the hand. This sign indicates that the abstract ideas are inside the mind, so people can keep them. In this word, however, the hand cannot really be placed in the head, so the signer holds the hand against the head as if the ideas are grasped inside the mind.

Another word KNOWLEDGE denoting the CONTAINER image-schema is given in Figure 4.15, while its schematic representation is given in Figure 4.16.

KNOWLEDGE
Figure 4.15

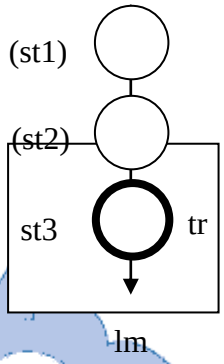

Figure 4.16

The word KNOWLEDGE is composed of the handshape /TONG/ of each hand. The handshape /TONG/ is produced with the five fingers of both hands bent with the palm facing out. Then the two hands move toward the head repeatedly, closing and opening alternatively at the same time, as Figure 4.15 shows. In this word, the handshape /TONG/ is motivated by mimicking the action of grasping ideas by hands. Thus, as the schematic representation in Figure 4.16 shows, the TR is originally outside the LM and then moves into the LM. The LM is identified with the head which represents mind, while the TR is represented with the ideas held by the both hands. This sign indicates that the ideas are grasped with the hands and are put into the mind.

In contrast, if the TR is outside the LM, it indicates that the entity is outside the container. The word FORGET and its schematic representation are illustrated in

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Figure 4.17 and Figure 4.18, respectively.

FORGET
Figure 4.17

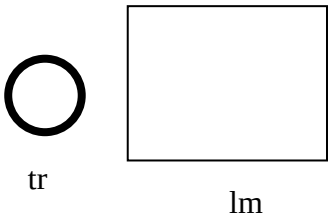
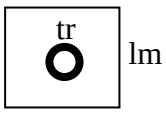


Figure 4.18

The word FORGET is composed of the handshape /QUAN/ which is produced with the five fingers bending into a fist. The handshape /QUAN/ is located on the side of the head and then opens the hand as shown in Figure 4.17. As shown in Figure 4.18, the LM is represented by the head which represents mind, while the TR is identified with the idea held by the hand. As the TR is outside the LM, it indicates that the idea is no longer in the mind.

Other TSL words related to the metaphor MIND IS A CONTAINER are given in Table 4.3. TSL signers systematically conceptualize the mind as a container in which the cognitive activities occur. Therefore, these words are produced with the hands moving near the head which represents the mind. The handshapes, locations, and movements of these words are illustrated in Table 4.3.

	REMEMBER 記得	HANDSHAPE: Right /QUAN/
		LOCATION: Near the head
		MOVEMENT: Hold the right handshape /QUAN/ with the palm facing in beside the temple.
		VISUALIZE: The right handshape /QUAN/ as grasping something in the mind.

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	HOPE 希望	HANDSHAPE: Right /SHI/
		LOCATION: Near the head
		MOVEMENT: Hold the right handshape /SHI/ with the curved index finger on the forehead.
		VISUALIZE: It indicates that the hopes are hooked in the mind.
	LIVELY 活潑	HANDSHAPE: Right /WU/; Left /WU/
		LOCATION: Near the head
		MOVEMENT: Point the index fingers of both hands to the temples with the palms facing out, and then swing the other fingers.
		VISUALIZE: It indicates thinking quickly in the mind.
	CHARITY 恩惠	HANDSHAPE: Right /SHOU/; Left /NAN/
		LOCATION: Near the head
		MOVEMENT: Put the left handshape /NAN/ beside the head, and cover the left hand with the right handshape /SHOU/.
		VISUALIZE: It indicates keeping the charity in the mind.
	DISCIPLINE 砥礪	HANDSHAPE: Right /QUAN/; Left /QUAN/
		LOCATION: Near the head
		MOVEMENT: Hold both hands near the head and rotate them in counter circles.
		VISUALIZE: It indicates grinding something in the mind.
	THINK 想	HANDSHAPE: Right /YI/
		LOCATION: Near the head
		MOVEMENT: Rotate the index finger of the right handshape /YI/ beside the right temple.
		VISUALIZE: It indicates that thinking is like a machine running in the head.
	COMPLICATED 複雜	HANDSHAPE: Right /TONG/
		LOCATION: Near the head
		MOVEMENT: Point the index finger of the

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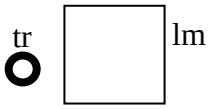
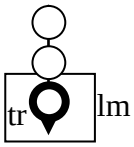
		right handshape /TONG/ to the temple and rotate the wrist several times.
		VISUALIZE: It symbolizes a scramble brain.
	FORGET 忘記	HANDSHAPE: Right /QUAN/→/WU/
		LOCATION: Near the head
		MOVEMENT: Move the right handshape /QUAN/ upward; then open the hand to be the handshape /WU/.
		VISUALIZE: It indicates that something was grasped to leave the mind and then released from the hand.
	IMAGINATION 幻想	HANDSHAPE: Right /YI/
		LOCATION: Near the head
		MOVEMENT: Move the index finger of the right handshape /YI/ in circles near the right temple.
		VISUALIZE: It suggests futuristic thoughts coming from the mind.
	KNOWLEDGE 知識	HANDSHAPE: Right /TONG/→/WAN/; Left /TONG/→/WAN/
		LOCATION: Near the head
		MOVEMENT: Move the handshape /TONG/ of each hand toward the head alternatively; then close the hands to be the handshape /WAN/.
		VISUALIZE: It indicates that the ideas are grasped in the hands and are put into the mind.
	MONKEY SEE MONKEY DO 有樣學樣	HANDSHAPE: Right /TONG/→/WAN/
		LOCATION: Near the head
		MOVEMENT: Move the right handshape /TONG/ toward the forehead and meantime become the handshape /WAN/.
		VISUALIZE: It indicates imitating something as grasping that into the mind.

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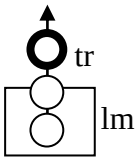	DISAPPOINT 失望	HANDSHAPE: Right /SHI/
		LOCATION: Near the head
		MOVEMENT: Hold the right handshape /SHI/ with the curved index finger on the forehead, and then move the hand down.
		VISUALIZE: It indicates that the hopes hooked in mind fell down.
	DREAM 夢	HANDSHAPE: Right /YI/
		LOCATION: Near the head
		MOVEMENT: Touch the right temple with the index finger of the right handshape /YI/; then move it forward and upward in a few rolling circles.
		VISUALIZE: It indicates that the dream is proceeding from the mind.

Table 4.3: The words based on the metaphor MIND IS A CONTAINER in TSL

4.3.3 CHEST IS A CONTAINER

In addition to the metaphor MIND IS A CONTAINER discussed above, another metaphor CHEST IS A CONTAINER is also prominent for emotions in languages. The chest is a cavity which is located at the upper body and acts as a container in which organs like heart, breast, and lungs are located. In addition, the chest can also be used as a container in metaphorical expressions. For example, Lakoff and Kövecses (1987) propose several metaphorical concepts of anger in English, as given in (3).

(3) ANGER IS HEAT
Don't get hot under the collar. (Lakoff and Kövecses 1987: 197)

In (3), *hot* denotes anger and the expression *hot under the collar* means that someone is angry. Under the collar is where the chest is. In English, the metaphorical

expression about emotions usually involves the chest. The metaphorical expressions about anger are also applied to Chinese, as given in (4). The word *qiang* 'thoracic cavity' in (4) is considered as a container which is full of anger.

(4) THE BODY IS A CONTAINER FOR THE EMOTIONS

Ta man qiang nu-huo.
he full cavity angry-fire
'His thoracic cavity is full of angry fire (i.e. He's filled with anger).'
(Yu 1998: 53)

The metaphorical expressions ANGER IS HEAT and CHEST IS A CONTAINER can also be applied to the word formation in TSL. For example, the word ZEAL denoting the CONTAINER image-schema is given in Figure 4.19, while its schematic representation is given in Figure 4.20.

ZEAL
Figure 4.19

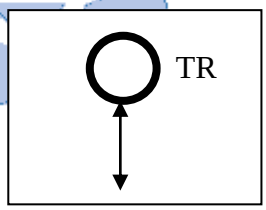

Figure 4.20

The word ZEAL is composed of the handshape /TONG/ of each hand. The handshape /TONG/ is produced with five fingers of the moving hands bent with the palms facing up. The two hands move up and down alternatively, as Figure 4.19 shows. As the schematic representation in Figure 4.20 shows, the TR is a moving entity, while the LM represents a container. The TR moves up and down repeatedly in

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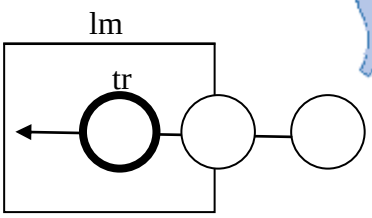
the LM. Thus, the TR is identified with the handshape /TONG/ of both hands, while the LM is represented with the chest which is conceptualized as a container. Therefore, in accordance with the movements of the TR, this sign indicates that his heart is hot like the heat rising up repeatedly in the chest.

Other words HATE-A and HATE-B denoting the CONTAINER image-schema is given in Figure 4.21 and Figure 4.22 respectively, while its schematic representation is given in Figure 4.23.

HATE-A
Figure 4.21

HATE-B
Figure 4.22



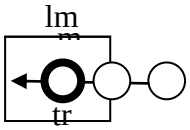
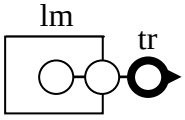
st3 (st2) (st1)

Figure 4.23

The words HATE-A and HATE-B are produced with the handshape /MIN/ and the handshape /NAN/. The handshape /MIN/ in the word HATE-A is produced with the extended thumb and the little finger of the moving hand. Then the thumb thrusts the chest as in Figure 4.21. The handshape /NAN/ of the word HATE-B is produced with the extended thumb thrusting the chest as in Figure 4.22. As the

schematic representation in Figure 4.23 shows, the TR stands for a moving entity, while the LM stands for a container. Thus, the LM is identified with the chest, which is conceptualized as a container, while the TR is identified with both handshapes /NAN/ and /MIN/, which represent the needles. As the TR moves into the LM, the needles are put into the chest.

Other TSL words related to the metaphor CHEST IS A CONTAINER are given in Table 4.4. These words involve the hands moving in front of the chest, since the chest is conceptualized as a container in which emotional feelings occur. The handshapes, locations, and movements of these words are illustrated in Table 4.4.

	HATE-A, B 恨-A, B	HANDSHAPE: Right /MIN/ or /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Thrust the chest with the extended thumb of the right handshape /MIN/ or /NAN/.
		VISUALIZE: The extended thumb symbolizes a needle spearing into the heart.
	AFFECT 感動	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Swing the index fingers of both hands with the fingertips pointing forward and move them toward the heart.
		VISUALIZE: Swing the fingers to draw the shapes of lightning, and then move toward the heart as the heart is shocked by something.
	YIELD 讓	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the right flat hand with the palm facing up in front of the chest, and then move the hand forward.
		VISUALIZE: It indicates that a person gave others something that he had in mind.

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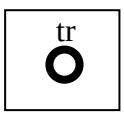
	ZEAL 熱忱	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands up and down alternatively in several times in front of the chest.
		VISUALIZE: The curved hands moving up and down suggest his heart is hot like boiling waters.
	WARM 溫暖	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands up and down alternatively in front of the chest.
		VISUALIZE: It indicates the heat fills with the chest.
	IRRITABLE 暴躁	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Place the fingertips of both curved hands against the chest, and then move them upward forcefully several times.
		VISUALIZE: It indicates angry feelings rising from within the chest.
	HAPPY 高興	HANDSHAPE: Right /WU/; Left /WU/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands up and down alternatively in several times in front of the chest.
		VISUALIZE: It suggests happy feelings springing up and down.
	WORRIED 擔心	HANDSHAPE: Right /QIAN/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /QIAN/ up and down repeatedly on the left flat hand.
		VISUALIZE: It indicates that the heart is carried to move up and down and can't keep static.
	AFRAID 害怕	HANDSHAPE: Right /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Hold the right curved fingers against the chest with the palm facing in.
		VISUALIZE: It indicates that holding the heart keeps from it jumping out of the chest.

	TOLERATE 忍耐	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Push the little-finger edge of the right hand toward the chest.
		VISUALIZE: It indicates that something intends to go out of the chest. Press it with the right hand to keep it from going out.
	CALM DOWN 息怒	HANDSHAPE: Right /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /SHOU/ downward slowly with the palm facing down in front of the chest.
		VISUALIZE: To press the anger down with the right hand.
	HUMBLE 謙虛	HANDSHAPE: Right /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Knock the chest slightly with the right handshape /NÜ /.
		VISUALIZE: The handshape /NÜ / usually represents negative meanings. It indicates that a person thinks himself is powerless.
	TRUE 誠懇	HANDSHAPE: Right /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /NAN/ upward repeatedly in front of the chest.
		VISUALIZE: The handshape /NAN/ usually represents positive meanings. It indicates that the things in the heart are great.

Table 4.4: The words based on the metaphor CHEST IS A CONTAINER in TSL

4.4 Conclusion

This chapter has discussed TSL word formation related to the CONTAINER image-schema. The CONTAINER schematic structures can be represented with the movements, locations, and handshapes of the TSL words. The spatial relations of the

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CONTAINER image-schema like ‘inside’ and ‘outside’ can be represented with the simultaneous construction in signed languages.

In addition, the CONTAINER image-schema can serve as the source domain which is mapped onto the target domains like [BODY], [MIND], and [CHEST]. Thus, the metaphorical mappings in this chapter are BODY IS A CONTAINER, MIND IS A CONTAINER, and CHEST IS A CONTAINER. The TSL words based on these metaphors are produced at different locations. For example, the TSL signers have systematically recognized the head as a container in which the cognitive actions occur. Thus, they sign the words related to the cognitive near the head such as the words REMEMBER, FORGET, KNOWLEDGE, etc. Similarly, the chest can also be metaphorized as a container in which the emotional feelings happen. Therefore, TSL signers sign the words related to emotions in front of the chest, such as HAPPY, ZEAL, HATE, etc.

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CHAPTER 5 PART-WHOLE IMAGE-SCHEMA AND WORD FORMATION IN TSL

5.1 Introduction

The part-whole relationship has been studied in a large number research from different perspectives. One of them focuses attention on the existence of a domain-subdomain relationship (Croft 1993; Dirven 1993). However, this chapter aims to discuss the part-whole relationships in terms of a spatial gestalt proposed by Johnson (1987) and Lakoff (1987). The PART-WHOLE image-schema is analyzed here as a preconceptual embodied pattern.

In this chapter, I will discuss the word formation in TSL in terms of the PART-WHOLE image-schema in section 5.2. In sections 5.3 through 5.5, I will discuss the TSL words based on the subsidiary schemas of the PART-WHOLE image-schema, including the COLLECTION, SPLITTING, and LINK schemas. In section 5.7, I will conclude this chapter.

5.2 The PART-WHOLE image-schema

Our experience of the PART-WHOLE schema is that our bodies are regarded as wholes which consist of parts (Lakoff 1987; Krzeszowski 1993). Therefore, head, hand, neck are parts of the body, and the body cannot be as a whole if it lacks a leg or an arm. Also, Krzeszowski (1993: 311) mentions that human's hand can also be experienced as a whole, so fingers, thumbs, joints, and nails are considered as parts of the hand.

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According to Lakoff (1987: 273-274), the structural elements of the PART-WHOLE image-schema comprise a whole, parts, and a configuration. In addition, the basic logic of the PART-WHOLE image-schema is illustrated in (1).

(1) a. Asymmetric: if A is a part of B, then B is not a part of A.
b. Irreflexive: A is not a part of A.
c. The whole cannot exist if no parts of it exist.
d. All the parts can exist without making up a whole.
e. The whole can exist only when all the parts exist in the configuration.
f. If the parts are destroyed, then the whole is destroyed.
g. If the whole is located at a place, then the parts are located at the same place.
h. The parts are usually contiguous to one another.

Lakoff (1987: 273-274)

Take the word WHOLE in TSL for example. It is composed of the handshape /TONG/ of each hand. The two hands move backward in a half circle with the palms facing each other, and then touch the bases of the palms together, as Figure 5.1 shows. The circle movement in the word is motivated by making a boundary where the entities are located at the same place. Thus, the circular action indicates encompassing all the entities.

WHOLE

Figure 5.1

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Another word PART, as in Figure 5.2, is composed of the handshape /TONG/ of each hand. The two hands move backward in a small circle on the left side of the body. In contrast to the word WHOLE in Figure 5.1, the small circle represents one part of the whole and encompasses some of the entities. Beside, the location on the side of body indicates the part of the entities which are located in the same place.

PART
Figure 5.2

Other TSL words associated with the PART-WHOLE image-schema are given in Table 5.1. The similarity of these words is that they are produced with a circular movement. The circular movement indicates the inclusion of all the entities. The handshapes, movements, and locations of these words are illustrated in Table 5.1.

YOU 你們	HANDSHAPE: Right /YI/
	LOCATION: In front of the chest
	MOVEMENT: Point the index finger of the handshape /YI/ to the referents and move it in a circle in front the signer.
	VISUALIZE: The circular movement suggests the inclusion of all of you.
WE 我們	HANDSHAPE: Right /YI/
	LOCATION: In front of the chest
	MOVEMENT: Point the index finger of the handshape /YI/ to the signer himself and move it in a circle.
	VISUALIZE: The circular movement indicates the inclusion of all of us.

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THEY 他們	HANDSHAPE: Right /YI/
	LOCATION: In front of the chest
	MOVEMENT: Point the index finger of the handshape /YI/ to the referents and move it in a circle on the side of the body.
	VISUALIZE: The circular movement indicates the inclusion of other people.
BODY 身體	HANDSHAPE: Right /YI/
	LOCATION: In front of the body
	MOVEMENT: Move the right handshape /YI/ in a circle around the body.
	VISUALIZE: The circular movement indicates the body with all the organs included.
FACE 臉	HANDSHAPE: Right /YI/
	LOCATION: In front of the face
	MOVEMENT: Move the right handshape /YI/ in a circle around the face.
	VISUALIZE: The circular movement indicates the face with all the features included.
NATION 民族	HANDSHAPE: Right /MIN/; Left /MIN/
	LOCATION: In front of the chest
	MOVEMENT: Move both hands downward in a half circle with the palms facing each other, and then touch the hands together.
	VISUALIZE: The circular movement depicts the crowd.
WHOLE 全部	HANDSHAPE: Right /TONG/; Left /TONG/
	LOCATION: In front of the chest
	MOVEMENT: Move both hands backward in a half circle with the palms facing each other; then touch the bases of the palms together.
	VISUALIZE: The circular movement indicates that all the entities are included in the circle.
PART 部分	HANDSHAPE: Right /TONG/; Left /TONG/
	LOCATION: In front of the chest
	MOVEMENT: Move both hands backward in a half circle with the palms facing each other; then touch the bases of the palms together on the left side of the body.
	VISUALIZE: The circular movement indicates that some of the entities are included in the small circle.

Table 5.1: The words based on the PART-WHOLE image-schema in TSL

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5.3 The COLLECTION image-schema

When several entities with similar properties are scattered all over, we can gather them together. For example, we have to put the toys together when they spread over the floor or we can collect beautiful stamps which are stuck on several envelops. These entities originally existed in different places, and then are put together in the same place. These physical experiences recur around us and are stored in our brains to form an image-schema, more specifically, COLLECTION image-schema. The COLLECTION image-schema was proposed by Johnson (1987: 126) but he didn't develop it. Peña (2003) suggests that it's a subsidiary of the PART-WHOLE schema, since the COLLECTION schema consists of more than two parts, a whole, and a configuration. Take the English sentence in (2) for example.

(2) He gathered hopes that one day she would come back. (Peña 2003: 205)

In (2), the action of gathering indicates that the hopes originally spread all over, and then they are collected together.

Apart from English, the COLLECTION schema also provides the basis for the word formation in TSL. The word ASSEMBLE and its schematic representation are illustrated in Figure 5.3 and Figure 5.4, respectively.

ASSEMBLE
Figure 5.3

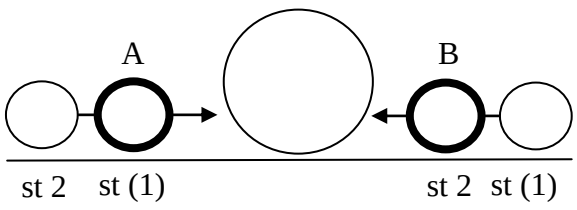

Figure 5.4

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The word ASSEMBLE is composed of the handshape /TONG/ of each hand. The two hands move toward each other with the palms facing each other, as Figure 5.3 shows. The handshape /TONG/ is motivated by mimicking the action of holding entities in the hands. The movement of both hands indicates things are brought to the same place. As shown in Figure 5.4, the big circle represents a whole, while the small circles A and B represent two parts of entities. The movements of A and B toward the big circle indicate that the parts of entities are gathered in the same place and make up a whole. Thus, A and B are identified with the two parts of entities which are held by the hands, and the big circle is understood as the whole which is located in front of the signer's body. Therefore, the parts originally located at the two sides are gathered together, and then they make up a whole group.

Another word COLLECTION and its schematic representation are illustrated in Figure 5.5 and Figure 5.6, respectively.

COLLECTION
Figure 5.5

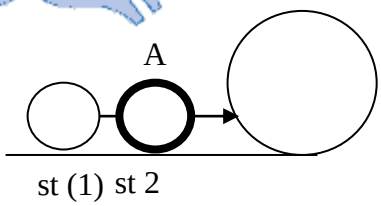

Figure 5.6

The word COLLECT is composed of the handshape /WAN/ of each hand. The two hands move toward the body with the palms facing forward, and open and close the hands simultaneously, as Figure 5.5 shows. In this case, the handshape /SHOU/ of each hand is motivated by mimicking the action of grasping something in the hand. As the schematic representation in Figure 5.6 shows, the big circle

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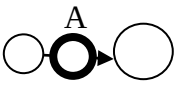
represents a whole, while the small circle A represents a part of entities. In this case, the movement of A toward the big circle indicates that the part of entities is gathered in the same place and makes up a whole. Therefore, A is identified with the part of entities, while the big circle is understood as the whole which is located in front of the signer's body. Thus, the movements of the two hands suggest grasping the entities to the same location from everywhere.

Other TSL words associated with the COLLECTION image-schema are given in Table 5.2. These words are produced with the hands moving toward the signer's body. The handshapes are motivated by mimicking the action of grasping something in the hands, while the signer's body is understood as the location where the entities are gathered. The hand movements indicate that the entities are gathered into the same location. The handshapes, locations, and movements of these words are illustrated in Table 5.2.

	COLLECT EXTENSIVELY 收攬	HANDSHAPE: Right /JIU/; Left /JIU/
		LOCATION: In front of the chest
		MOVEMENT: Move the handshape /JIU/ of each hand toward the chest.
		VISUALIZE: It indicates bringing all the entities toward oneself.
	RECEIVE MONEY 收款	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the handshape /QIAN/ of each hand toward the chest.
		VISUALIZE: It indicates bringing money toward oneself.

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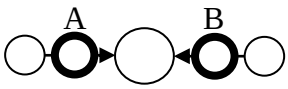
	COLLECT 蒐集	HANDSHAPE: Right /TONG/ → /WAN/; Left /TONG/→/WAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the handshape /TONG/ of each hand toward the chest alternatively while simultaneously forming the handshape /WAN/ in a few times.
		VISUALIZE: It indicates bringing entities toward oneself.
	RECRUIT 招募	HANDSHAPE: Right /JIU/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Swing the wrist of the right handshape /JIU/ over the left handshape /NAN/.
		VISUALIZE: The movements of the right hand indicate enlisting people to be the new members.
	ASSEMBLE 集合	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Move the handshape /TONG/ of each hand toward each other.
		VISUALIZE: It indicates gathering entities toward the same place.
	UNITE; COMBINE 聯合；結合	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Place the hands up and down, and then move them together.
		VISUALIZE: The movements of the hands indicate that the two parts are merged into one.

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	MIX 混合	HANDSHAPE: Right /TONG/; Left /TONG/
		LOCATION: In front of the chest
		MOVEMENT: Place the hands up and down, overturn the hands, and then move them together.
		VISUALIZE: The movements of the hands indicate that the two parts are mixed into one.

Table 5.2: The words based on the COLLECTION image-schema in TSL

5.4 The SPLITTING image-schema

The SPLITTING image-schema is proposed by Johnson (1987: 126) and then grouped into the PART-WHOLE schema by Clausner and Croft (1999). The SPLITTING schema is derived from the experiences of splitting something and the entities divided from a whole entity, as illustrated in (3).

(3) With countries from every corner of the globe contributing, the whole exhibition will be split into seven distinct themes. These are Consumer, Environment, Recreation, Transport, World, Production and Future. (BNC)

In (3), the exhibition is viewed as a whole entity, and the themes are the parts which are split from the whole. The relations between the whole and the parts are derived from the PART-WHOLE image-schema.

In addition to spoken languages, the notions of the parts split from the whole can also be found in TSL words. The word DISBAND and its schematic representation are illustrated in Figure 5.7 and Figure 5.8, respectively.

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DISBAND
Figure 5.7

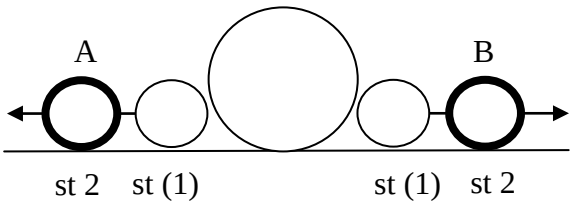

Figure 5.8

The word DISBAND is produced with the handshape /QUAN/ of each hand. The fingers of the moving hands bent into fists, move apart, and meanwhile open the palms, as Figure 5.7 shows. The handshape /QUAN/ of each hand describes as grasping entities, while the location of the signer's body represents the location where the entities are gathered. As the schematic representation in Figure 5.8 shows, the big circle represents a whole, while the small circles A and B represent two parts of entities. In this case, A and B departing from the big circle indicates that the whole split into the parts of entities. Therefore, A and B are identified with the parts of entities grasped by the hands, and the big circle is understood as the whole which is located in front of the signer's body. The action of holding the hands together represents that the entities are at the same place, while the hand movements away from the signer's body indicate that the entities depart from the location and spread all over.

Another word BRANCH and its schematic representation are illustrated in Figure 5.9 and Figure 5.10, respectively.

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BRANCH
Figure 5.9

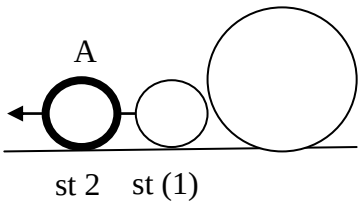

Figure 5.10

The word BRANCH is composed of the handshape /TONG/ and the handshape /GUO/. The handshape /TONG/ is produced with the five fingers of the non-moving hand bent with the palm facing down, while the handshape /GUO/ is produced with the curved fingers of the moving hand with the palm facing down. The handshape /TONG/ of the non-moving hand is located in front of the chest, while the handshape /GUO/ of the moving hand moves forward repeatedly from the other hand, as Figure 5.9 shows. As the schematic representation in Figure 5.10 shows, the movement of A away from the big circle indicates that an entity split from the whole. Therefore, A is identified with the handshape /GUO/, while the big circle is represented with the handshape /TONG/. In this word, the left handshape /TONG/ represents headquarters, and the movements of the handshape /GUO/ indicate the branches are derived from the headquarters.

Other TSL words associated with the SPLITTING image-schema are given in Table 5.3. These words are produced with the hands moving away from the signer's body. The handshapes are motivated by mimicking the action of grasping entities in the hands, while the signer's body is understood as the location where the entities are gathered. The hand movements indicate the entities spread around. The handshapes, locations, and movements of these words are illustrated in Table 5.3.

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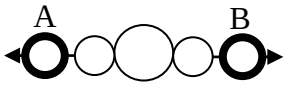
	BRANCH OFFICE 分行	HANDSHAPE: Right /TONG/; Left /GUO/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /TONG/ in front of the chest with the fingers pointing down; then move the right handshape /GUO/ forward from the left hand several times.
		VISUALIZE: The left handshape /TONG/ represents headquarter, and the movements of the right handshape /GUO/ indicate that the branches are derived from the headquarter.
	DISTRIBUTE 分發	HANDSHAPE: Right /WAN/; Left /WAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /WAN/ in front of the chest, and then move the right handshape /WAN/ forward from the left several times.
		VISUALIZE: The left handshape /WAN/ represents a whole, and the movements of the right handshape /WAN/ indicate that the parts are derived from the whole.
	DIVIDE-A, B 均分-A, B	HANDSHAPE: Right /SHOU/; Left /YI/ or /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Hold the left handshape /SHOU/ or the left handshape /YI/ pointing to the right. Touch the left hand with the little-finger edge of the right handshape /SHOU/; then move leftward and rightward.
		VISUALIZE: The right handshape /SHOU/ indicates a knife cutting an entity into two parts.

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	SNAP 折斷	HANDSHAPE: Right /YI/; Left /YI/
		LOCATION: In front of the chest
		MOVEMENT: Hold the index fingers of both hands pointing to each other; then point the fingers down.
		VISUALIZE: The downward movement of the index fingers symbolizes a stick is broken into two parts.
	BREAK 破	HANDSHAPE: Right /QUAN/; Left /QUAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the thumb and index-finger edges of both hands together; then upturn the hands to make the palms face each other.
		VISUALIZE: The upturn movement of the hands indicates breaking something into two parts.

Table 5.3: The words based on the SPLITTING image-schema in TSL

5.5 The LINK image-schema

According to Johnson (1987: 117), our first experience of the LINK image-schema is that we were linked to our biological mothers by the umbilical cord before we were born. Thus, the LINK image-schema consists of two or more entities which are connected with each other by means of a linking device (Johnson 1987: 118; Peña 2003: 208, Lakoff 1987: 274, Santibáñez 2002: 188). In the visual image of the LINK image-schema, as illustrated in Figure 5.11, the elements are two entities, A and B, and a link connects the two entities (Johnson 1987: 118). Furthermore, according to Lakoff (1987: 274), the basic logic of the LINK image-schema is illustrated in (4). The English example is given in (5).

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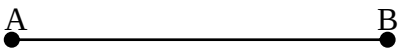

Figure 5.11: the LINK image-schema

(4) a. If A is linked to B, then A is constrained by B, and dependent upon B.
b. Symmetry: If A is linked to B, then B is linked to A.

Lakoff (1987: 274)

(5) Fossils show that until the end of the Eocene period a land bridge connected Eurasia with North America. (BNC)

In (5), *Eurasia* and *North America* are understood as two lands, and *land bridge* is understood as a linking advice which connects *Eurasia* and *North America*. In this case, with the land bridge combining the two lands together, *Eurasia* is linked to *North America*, and vice versa.

5.5.1 HUMAN RELATIONS ARE CONNECTIONS

When interacting with other people in the same group or society, we have the social relationships between us. These relationships connect and bind us together such as friendships or marriage. Kövecses (1988, 1991, 2005) states that the concept of romantic love is understood by the metaphor LOVE IS UNITY OF TWO COMPLEMENTARY PARTS, as illustrated in (6).

(6) Penny believes that both Diana and Charles have suffered from the break-up of the marriage, and that there will be no "winner" in the battles to come. She is certain, however, that the separation will end in divorce. (BNC)

In (6), *marriage* is considered as a whole entity. Therefore, *break-up* and *separation* in this case symbolize a way to split the entity, which leads to the results of divorce.

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The word MARRY denoting the LINK image-schema is given in Figure 5.12, while its schematic representation is given in Figure 5.13.

MARRY
Figure 5.12

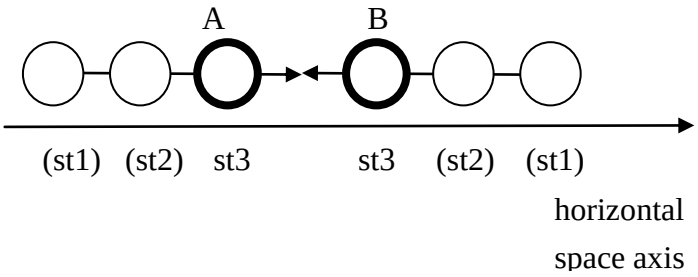

Figure 5.13

The word MARRY is composed of the handshape /NAN/ and the handshape /NÜ /. The handshape /NAN/ is produced with the extended thumb of the moving hand which points upward, while the handshape /NÜ / is produced with the extended little finger of the other hand which points upward. The two hands move toward each other, as Figure 5.12 shows. As shown in Figure 5.13, A and B represent the moving entities and the black arrows denote the directions of the movements by A and B. In this case, A and B move toward each other and then get together. Therefore, A is identified with the handshape /NAN/, which refers to a man, while B is represented with the handshape /NÜ /, which stands for a woman. In this word, the connection of the two hands indicates that a marriage bond connects the man and the woman together.

If A and B depart in the opposite directions, it means that the link between the entities is cut off. The word DIVORCE and its schematic representation are illustrated in Figure 5.14 and Figure 5.15, respectively.

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DIVORCE
Figure 5.14

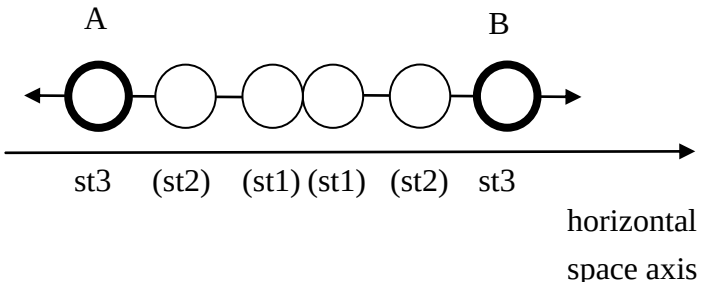

Figure 5.15

The word DIVORCE, as in Figure 5.14, is composed of the handshape /NAN/ and the handshape /NÜ/. The two hands originally get together but then move apart. As shown in Figure 5.15, A and B originally get together, move in opposite directions, and then get far away from each other. Therefore, A is identified with the handshape /NAN/, which refers to a man, while B is represented with the handshape /NÜ/, which stands for a woman. In this word, the movements of the two hands indicate that the marriage bond between the man and the woman is cut off.

Although the basic logic of the LINK image-schema by Lakoff (1987: 274) is symmetric, Deane (1992: 62) argues that the concept of the LINK image-schema is not inherently symmetrical, since the entities can be autonomously linked to each other or one is dependent on the other. The former case is the relationship of marriage, while the latter is that the children depend on their parents. The word DEPENDENT ON denoting the LINK image-schema is given in Figure 5.16, while its schematic representation is given in Figure 5.17.

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DEPENDENT ON
Figure 5.16

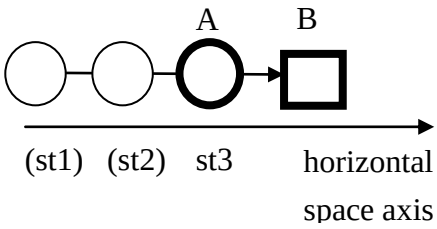

Figure 5.17

The word DEPENDENT ON is composed of the handshape /NAN/ of each hand. One handshape /NAN/ is located in front of the chest, while the other handshape /NAN/ moves toward the other hand, as Figure 5.16 shows. As shown in Figure 5.17, A moves toward B and connects it. Thus, A is identified with the handshape /NAN/ of the moving hand, which stands for a person, while B is represented with the other handshape /NAN/, which represents the other person.

Other TSL words related to the metaphor HUMAN RELATIONSHIPS ARE CONNECTIONS are given in Table 5.4. If the hands move toward each other, it indicates that there is a relationship between the people. In contrast, if the hands move apart, it means that the promise is broken. The handshapes, locations, and movements of these words are illustrated in Table 5.4.

	MARRY 結婚	HANDSHAPE: Right /NÜ /; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Bring the right handshape /NÜ / and the left handshape /NAN/ together.
		VISUALIZE: It indicates that a marriage bond connects a man and a woman together.

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	FRIEND 朋友	HANDSHAPE: Right /FANG/; Left /FANG/
		LOCATION: In front of the chest
		MOVEMENT: Clasp the hands with the right hand facing left and the left hand facing right, and then shake the hands.
		VISUALIZE: It indicates that two men making friends by shaking the hands.
	ACCOMPANY-A, B 陪伴-A, B	HANDSHAPE: Right /YI/ or /NAN/; Left /YI/ or /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Bring the handshape /YI/ or /NAN/ of each hand together.
		VISUALIZE: It indicates that two people are getting together.
	PARTNERSHIP 合夥	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Hold the handshape /QIAN/ of both hands with palms facing each other; then bring them together until the thumb and index finger sides touch each other.
		VISUALIZE: It symbolizes the investments of both sides.
	MEETING 會議	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Bring the handshape /NAN/ of each hand together several times with the palms facing in.
		VISUALIZE: It symbolizes repeated connection of two people.
A B	DIVORCE 離婚	HANDSHAPE: Right /NÜ /; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Put the right handshape /NÜ / and the left handshape /NAN/ together; then move them apart.

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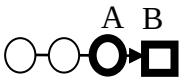
		VISUALIZE: It indicates a marriage bond between a man and a woman is cut off.
	FRIENDLESS 不朋友	HANDSHAPE: Right /FANG/; Left /FANG/
		LOCATION: In front of the chest
		MOVEMENT: Move apart the hands which originally clasped together.
		VISUALIZE: It indicates that the friendship is broken.
	DEPENDENT ON 依靠	HANDSHAPE: Right /NAN/; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /NAN/ toward the left handshape /NAN/.
		VISUALIZE: It indicates that a person depends on another one.
	WIDOWER 鰥	HANDSHAPE: Right /NÜ /; Left /NAN/
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /NÜ / away from the left handshape /NAN/.
		VISUALIZE: It indicates that a woman left a man and passed away.
	WIDOW 寡	HANDSHAPE: Right /NAN/; Left /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Move the right handshape /NAN/ away from the left handshape /NÜ /.
		VISUALIZE: It indicates that a man left a woman and passed away.
	MAKE A PROMISE 約定	HANDSHAPE: Right /NÜ /; Left /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Interlock the right and left little fingers from up and down.
		VISUALIZE: Two people interlock their little fingers to signify that a promise has been made.

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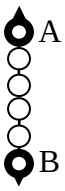	BREAK ONE'S PROMISE 失約	HANDSHAPE: Right /NÜ /; Left /NÜ /
		LOCATION: In front of the chest
		MOVEMENT: Separate the right and left little fingers.
		VISUALIZE: It indicates that the promise is broken.

Table 5.4: The words based on the metaphor HUMAN RELATIONSHIPS ARE CONNECTIONS in TSL

5.5.2 TEMPORAL RELATIONSHIPS ARE CONNECTIONS

The LINK image-schema can also be mapped onto the temporal domain, and the links between events refer to temporal connections (Johnson 1987: 118). In other words, event A is linked to event B, since the events occur in sequence. Furthermore, the temporal relatedness gives rise to causal connections between these events (Johnson 1987: 118). The English example is illustrated in (7).

(7) The day was a continuous series of interruptions so that it was difficult for clients to have any real period of rest and quiet. (BNC)

In (7), the word *interruptions* can be understood as the events, and *a continuous series of interruptions* indicates that these events occur in sequence. One event happens after the other event with a temporal connection between them.

For example, the word RELATION denoting the LINK image-schema is given in Figure 5.18, while its schematic representation is given in Figure 5.19.

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RELATION
Figure 5.18

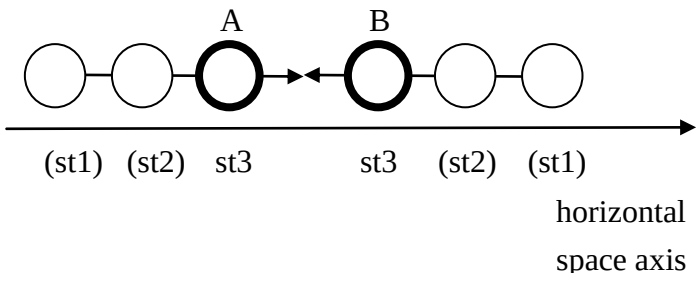

Figure 5.19

The word RELATION is composed of the handshape /QIAN/ of each hand. The index fingers and thumbs of both hands interlock with each other, moving together to the sides, as Figure 5.18 shows. As the schematic representation in Figure 5.19 shows, A and B represent the moving entities and the black arrows denote the directions of the movements by A and B. A and B move toward each other and then get together. Therefore, the action of interlocking the hands indicates that the events are linked.

In contrast, if the two hands move apart, it means that the link between the events is cut off. The word NO RELATION is composed the handshape /QIAN/ of each hand. The two hands originally interlock together and then move apart, as Figure 5.20 shows. The movement of the hands indicates that there is no relation between the events.

NO RELATION
Figure 5.20

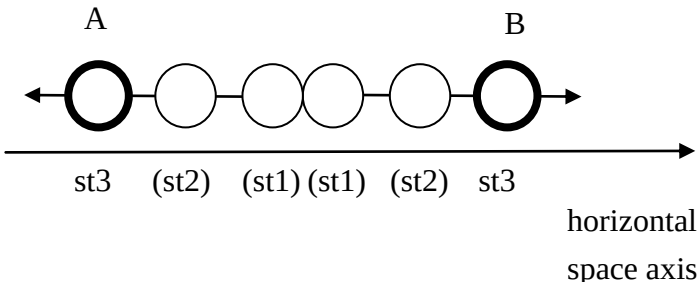

Figure 5.21

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Other TSL words related to the metaphor TEMPORAL RELATIONSHIPS ARE CONNECTIONS are given in Table 5.5. These words are produced with the hands moving toward each other or moving apart. If the hands move toward each other, it indicates that the relationships connect the events, such as COHERENT, BECAUSE, and CONTINUE. In contrast, if the hands move apart, it means that the relationships between the events are removed such as NO RELATION and NOT COHERENT. The handshapes, locations, and movements of these words are illustrated in Table 5.5.

	RELATION 關係	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the index fingers and thumbs of both hands with the other fingers extended.
		VISUALIZE: It indicates that the events are linked.
	COHERENT 連貫	HANDSHAPE: Right /JIE/; Left /JIE/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the middle fingers and the thumbs of both hands with the other fingers extended
		VISUALIZE: It indicates that the two things are coherent.
	BECAUSE 因爲	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the index fingers and the thumbs of both hands and then move downward.
		VISUALIZE: It indicates that the continuous events are connected with a causal relationship.

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	CONTINUE 繼續	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the index fingers and the thumbs of both hands and then move downward.
		VISUALIZE: It indicates that the continuous events are connected with a temporal relationship.
A B	NO RELATION 沒關係	HANDSHAPE: Right /QIAN/; Left /QIAN/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the index fingers and the thumbs of both hands with the other fingers extended; then pull them apart.
		VISUALIZE: It indicates that the links between the events are cut off.
	NOT COHERENT 不連貫	HANDSHAPE: Right /JIE/; Left /JIE/
		LOCATION: In front of the chest
		MOVEMENT: Interlock the middle fingers and the thumbs of both hands with the other fingers extended; then pull them apart.
		VISUALIZE: It indicates that the two things are not coherent.

Table 5.5: The words based on the metaphor TEMPORAL RELATIONSHIPS ARE CONNECTIONS in TSL

5.5.3 SIMILARITIES ARE CONNECTIONS

Another form of the LINK image-schema, as Johnson (1987: 119) states, makes similarity to our perception. That is, two or more entities can be linked together since they share similar features.

The words MATCH-A and MATCH-B denoting the LINK image-schema are given in Figure 5.22 and Figure 5.23 respectively, while their schematic

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representation is given in Figure 5.24.

MATCH-A
Figure 5.22

MATCH-B
Figure 5.23

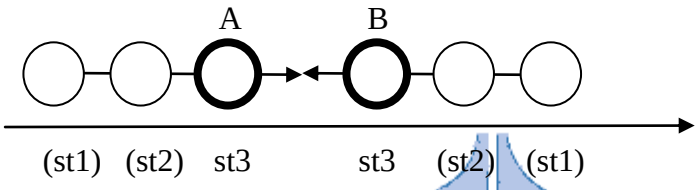

Figure 5.24

The word MATCH-A, as in Figure 5.22, is produced with the handshape /QI/ of each hand. The extended index fingers of both hands point at each other and move together. Then the second knuckle of each index finger bends to touch each other. Another word MATCH-B is produced with the handshape /SHOU/ of each hand. The fingertips of both hands point at each other and move to touch the fingers together, as Figure 5.23 shows. As the schematic representation in Figure 5.24 shows, A and B represent moving entities and the black arrows denote the directions of the movements by A and B. They move toward each other and then get together. Therefore, this contact of the hands indicates that the entities match with each other.

The words NOT MATCH-A and NOT MATCH-B denoting the LINK image-schema are given in Figure 5.25 and Figure 5.26 respectively, while their

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schematic representation is given in Figure 5.27.

NOT MATCH-A
Figure 5.25

NOT MATCH-B
Figure 5.26

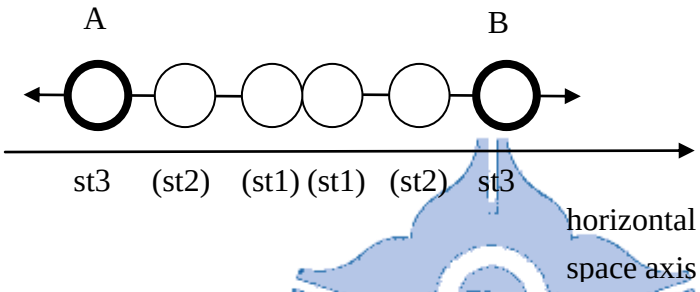

Figure 5.27

The word NOT MATCH-A is produced with the handshape /QI/ of each hand. The two hands touch each other and then move apart, as Figure 5.25 shows. Another word NOT MATCH-B is produced with the handshape /SHOU/ which originally touch each other and then move apart, as in Figure 5.26 shows. As the schematic representation in Figure 5.27 shows, if the two hands move apart, it means that the entities have nothing in common. In these words, the movements of the hands indicate that the entities do not match each other.

Other TSL words related to the metaphor SIMILARITIES ARE CONNECTIONS are given in Table 5.6. These words involve the hands moving toward each other or moving apart. If the hands move close, it means that there are some similarities between the entities. In contrast, the separation of the thumb and

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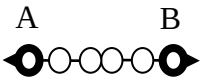
index finger of each hand indicates that the entities have nothing in common.

	CHECK 核對	HANDSHAPE: Right /SHOU/; Left /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Strike the fingertips of both hands several times.
		VISUALIZE: To see if the two entities are identical.
	FIT/MATCH-A, B 適合-A, B	HANDSHAPE: Right /LIU-SHI/ or /SHOU/; Left /LIU-SHI/ or /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Move both hands close together with the palms facing in and the knuckles touching together.
		VISUALIZE: It indicates that the entities match with each other.
	SAME 一樣	HANDSHAPE: Right /XIANG/; Left /XIANG/
		LOCATION: In front of the chest
		MOVEMENT: Move the thumb and index finger of each hand toward each other.
		VISUALIZE: It indicates that the entities share similar features.
	NOT MATCH-A, B 不合適-A, B	HANDSHAPE: Right /LIU-SHI/ or /SHOU/; Left /LIU-SHI/ or /SHOU/
		LOCATION: In front of the chest
		MOVEMENT: Point the fingertips of both hands to each other with the palms facing in; then twist one hand outward and sideways.
		VISUALIZE: It indicates that two entities once matched but now separate.
	DIFFERENT 不一樣	HANDSHAPE: Right /LÜ/→/QI/; Left /LÜ/→/QI/
		LOCATION: In front of the chest
		MOVEMENT: Move the thumb and index

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		finger of each hand apart.
		VISUALIZE: It indicates that the entities have nothing in common.

Table 5.6: The words based on the metaphor SIMILARITIES ARE CONNECTIONS in TSL

5.6 Conclusion

This chapter has discussed TSL word formation related to the PART-WHOLE image-schema and its subsidiary schemas such as the COLLECTION, SPLITTING, and LINK schemas. At first I discussed the structures of the PART-WHOLE image-schema and the words which are produced in accordance with the PART-WHOLE image-schematic representation like WHOLE and PART. Then I discussed the COLLECTION and SPLITTING schemas. The concept of the COLLECTION image-schema is gathering all the entities toward the same place. Therefore, the TSL words related to the COLLECTION involve the hands moving toward the signer's body. In contrast, the SPLITTING image-schema indicates that entities are derived from a whole. From the two schemas, we can understand how the parts make up a whole and how the whole divides into parts. In section 5.5, the LINK image-schema can provide the basis for metaphors like HUMAN RELATIONSHIPS ARE CONNECTIONS, TEMPORAL RELATIONSHIPS ARE CONNECTIONS, and SIMILARITIES ARE CONNECTIONS. The movements of the two hands toward each other indicate that there is a link between them, while the separation of the two hands indicates that the link between them is cut off.

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CHAPTER 6 CONCLUSION

This thesis has investigated the relevance between the TSL word formation and image-schemas. Image-schemas are derived from the daily experiences. When these experiences occur repeatedly, certain schematic structures begin to emerge and get represented in the mind. According to Johnson (1987: 19-21), image-schemas serve as a bridge between concrete, sensorimotor experience, and abstract reasoning. Since image-schemas are extensively used in understanding languages, they can be used to explain the TSL words involving literal or figurative meanings. These image-schemas include the basic schemas, namely, PATH, CONTAINER, and PART-WHOLE image-schemas, and their subsidiary image-schemas such as FORCE, UP-DOWN, and FRONT-BACK image-schemas.

Image-schemas play a prominent role for the meanings of words not only in spoken languages but also in signed languages. However, they belong to different modalities. Spoken languages use auditory-vocal modality, while signed languages use visual-gestural modality. As to spoken languages, the words are articulated by the mouth and perceived by the ears. For example, the English words such as IN, OUT and ENTER are based on the CONTAINER image-schema, while the words like FROM, ALONG, and TO are based on the PATH image-schema. As to signed languages, the words are produced by the body and perceived by the eyes. According to Johnson (1987: 23), the schematic structures are constantly operating in our perception, bodily movements through space, and physical manipulation of objects. Because of the visual-gestural modality of the signed languages, the phonological systems can present the image-schematic structures. Therefore, they can give more

concrete visual presentation to word formation. For example, the image-schemas such as the PATH and FORCE image-schemas are closely connected to the kinesthetic experience. Their structural elements comprise a source, a destination, and directionality. Thus, a path from the source to the destination is represented by the hand movement in TSL. Moreover, the CONTAINER image-schema is also closed to connect the spatial relations with the notions of 'in' and 'out', which can be represented with the simultaneously construction in TSL. In brief, image-schemas are applicable extensively to the word formation and interpret the meanings of the words in Taiwan Sign Language.

Further, image-schemas can be utilized to enhance the understanding and interpretation of the TSL words. This thesis has demonstrated that numerous TSL words are formed in accordance with the concept of the image-schemas, and the words sharing the same image-schema may denote similar concept or meaning. Thus, while teaching TSL words, image-schemas can be employed to categorize the words to enhance teaching efficiency. In addition, image schemas can also be used to explain the words involving metaphorical interpretations, such as the TSL word CHEAP. The downward movement can serve as the source domain [VERTICALITY] and offer the basic structure to interpret the target domain [QUANTITY]. Therefore, we can easily understand the metaphorical meanings and remember the forms of the TSL words. In sum, through this analysis, the image-schemas can be used to interpret the meanings of TSL words, especially metaphorical meanings.

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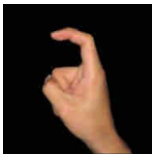
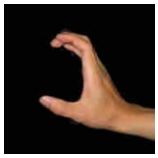
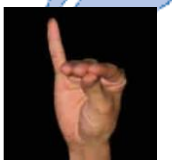
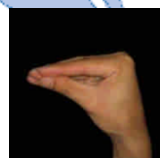
APPENDIX

TSL HANDSHAPES [10]

零 LING	一 YI	二 ER	三 SAN	四 SI	五 WU
					
六 LIU	七 QI	八 BA	九 JIU	十 SHI	二十 ER-SHI
三十 SAN-SHI	四十 SI-SHI	五十 WU-SHI	六十 LIU-SHI	七十 QI-SHI	八十 BA-SHI
					
方 FANG	百 BAI	千 QIAN	萬 WAN	K K	WC WC
兄 XIONG	姊 JIE	(爺) (YE)	(奶奶) (NAINAI)	(高) (GAO)	(矮) (AI)

[10] The handshapes in TSL are adopted from Smith and Ting (1979, 1984), but those with parenthesis are adopted from Chang, Su and Tai (2005). The handshapes BAI and MIN are added here.

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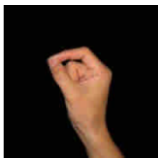
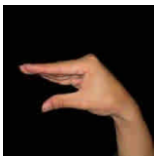
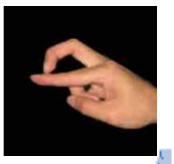
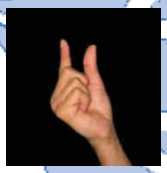
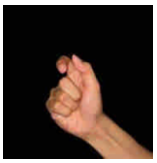
					
(布袋戲) (BUDAIXI)	同 TONG	守 SHOU	民 MIN	呂 LÜ	女 NÜ
男 NAN	果 GUO	很 HEN	胡 HU	借 JIE	拳 QUAN
					
隻 ZHI	紳 SHEN	博 BO	棕 ZONG	童 TONG	筆 BI
					
菜 CAI	手 SHOU	像 XIANG	語 YU	(細) (XI)	飛機 FEI-JI
錢 QIAN	鴨 YA	龍 LONG	薑 JIANG	蟲 CHONG	雞 JI
					
(鵝) (E)	難 NAN				

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