國立中正大學語言學研究所碩士論文

M.A. Thesis

Graduate Institute of Linguistics

National Chung Cheng University

探討身體分類詞在台灣手語中的形式與功能

Exploring the Forms and Functions of Body Classifier in Taiwan Sign Language

指導教授：張榮興 教授

Adviser: Dr. Jung-hsing Chang

研究生：賀豫琤

Graduate: Yu-cheng Ho

中華民國 一〇三 年 一 月

January 2014

國立中正大學碩士學位論文考試審定書

語言學研究所

研究生賀豫琤所提之論文

Exploring the Forms and Functions of Body Classifier in Taiwan Sign Language

經本委員會審查，符合碩士學位論文標準。

學位考試委員會

召　集　人 戴浩一 簽章

委　　員 戴浩一

林惠珍

范莉雯

指導教授 范莉雯 簽章

中華民國　一〇三　年　一　月　十　日

致謝辭

完成一本論文是一場耐力的考驗，感謝學校的師長，家中的父母及家人朋友們的支持與鼓勵，讓缺乏耐性的我經歷這場鍛鍊，堅持到終點線。這段期間，承蒙指導老師不厭其煩地指正我概念上錯誤的地方以及口試委員的提點與建議，方能完成這本論文。

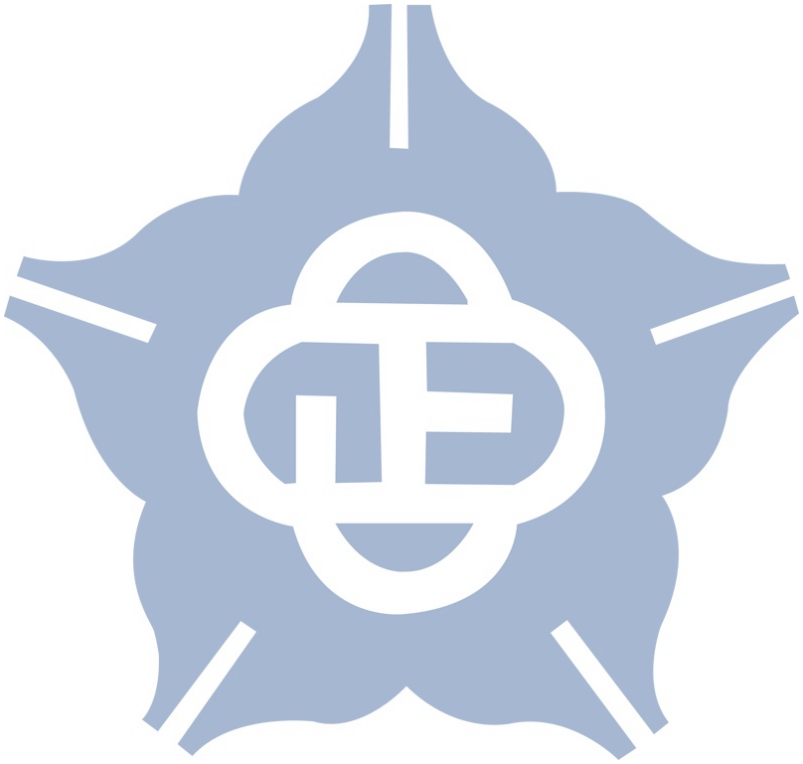
感謝協助我的口試委員戴浩一老師大方向的提問與細部的指正，有助於釐清盲點與改善不足；感謝口試委員林惠玲老師的建議，進一步提供整合論文的要點。此外，在中正語言所學習的這段時光，感謝蔡素娟老師對學生的關心與付出，讓學生不管在課業或是生活上皆受到良好的照應。

感謝我的指導老師張榮興教授，在課業上耐心地指導論文以及給予鼓勵和支持；在工作或生活上也分享許多經驗與見聞；在手語研究上還提供許多資源，甚至讓我有機會前往英國發表共同合作的海報論文，增廣見聞並留下美好的回憶。這三年多來感謝張老師的用心栽培，在此獻上最深的謝意。

感謝顧爸(顧玉山)，是我在中正語言所學習手語時的啟蒙老師，活潑的教學方式與熱情的教學態度讓我從中獲得很多對於聾人的認識與接觸。感謝于俊明先生、黃士真小姐、與戴鈺靜小姐，在蒐集論文語料的過程中幫了很大的忙，總是熱心地提供許多手語描述上的打法及意見，且很有耐心地與我們交流手語。

感謝林建宏學長時常在論文方面協助我克服困難，學長對事物樂觀的態度不但是優良的典範，且給予我精神上很大的支持。感謝陳怡君學姐，在我學手語的過程中提供很大的協助，而在論文上也提供不同的思考面向，使我得以更全面的思考問題。當然，還要感謝那些給我鼓勵與支持的學長姐與學弟妹們。

感謝好同伴們佩芬、佩欣、薇心、玟錚，記得我們都曾一起奮鬥到深夜，也因為有好同學們一起學習與成長，這讓我在研究所的路上不孤單。感謝有身邊的好姊妹們佳霖、欣予、歆喬、倍萱、詩茜、韻婷，願意分享我的喜怒哀樂，為我加油打氣。最後，我要深深地感謝最親愛的家人，為我提供了溫暖且安定的環境，始終無私地付出與包容。



ABSTRACT

In signed languages, the body can deliver rich messages. Signers often view themselves as the referents they are discussing and act like in the real-world situation. When a signer uses his/her body to describe a referent's action in question, the use of body in linguistics has various names, for example, 'body classifier' (Supalla 1986), 'constructed action' (Metzger 1995; Aarons and Morgan 2003), or 'full form pronoun' (Kegl 2003). As for the function of the use of body, Perniss (2007) states that a signer is in 'character perspective' when he/she uses his/her body to narrate events.

In this thesis we use the body classifier which is categorized into non-projected body classifier and projected body classifier (cf. Kegl 2003). The former refers to the signer's body as a pronoun affected by an action, while the latter refers to the projection of an invisible body affected by an action in the signing space. This thesis discusses body classifier in Taiwan Sign Language (TSL) and aims to explore the forms and the functions of the classifier. The first issue for discussion is about the verb forms of the verbal complement of the verb 'help' in TSL when describing the concept 'someone helped someone else do something'.

The second issue is about the distributions of the projected body classifier. We explore in what condition the projected body classifier can occur and in what condition it can't.

The third issue is to explore the functions of the projected body classifier. In other words, we figure out why the projected body classifier construction is preferred when the expression involves manner adverbials such as CAREFULLY, ANNOYINGLY, and LABORIOUSLY. Besides, we also focus on the recipient argument's reaction so that we can examine whether the projected body classifier is preferred in that situation.

Keywords: Taiwan Sign Language (TSL), body classifier, agentivity

TABLE OF CONTENTS

ACKNOWLEDGEMENTS……..……..i
ABSTRACT……..iii
TABLE OF CONTENTS……...……..……iv

Chapter 1 INTRODUCTION……1
1.1 Introduction……..1
1.2 The main issues of the thesis……4
1.3 Methods in eliciting data from informants……9
1.4 The organization of the thesis……10

Chapter 2 PREVIOUS DISCUSSIONS OF THE BODY IN SIGN LANGUAGES...11
2.1 Introduction……11
2.2 Signer's body corresponds to referent's body..……..11
2.3 Roles of the body……13
2.3.1 Body as subject……..……14
2.3.2 Body as first person……..……15
2.3.3 The body part of human body……..……..17
2.3.4 Summary……....18
2.4 The signing space corresponds to non-first-person referent……..18
2.5 Strategies in describing transitive events involving body actions……..19
2.5.1 AB verb constructions……..19
2.5.2 The sub-events……..……..20
2.5.3 Summary……..21
2.6 Body classifiers in TSL……21
2.7 Concluding remarks……...23

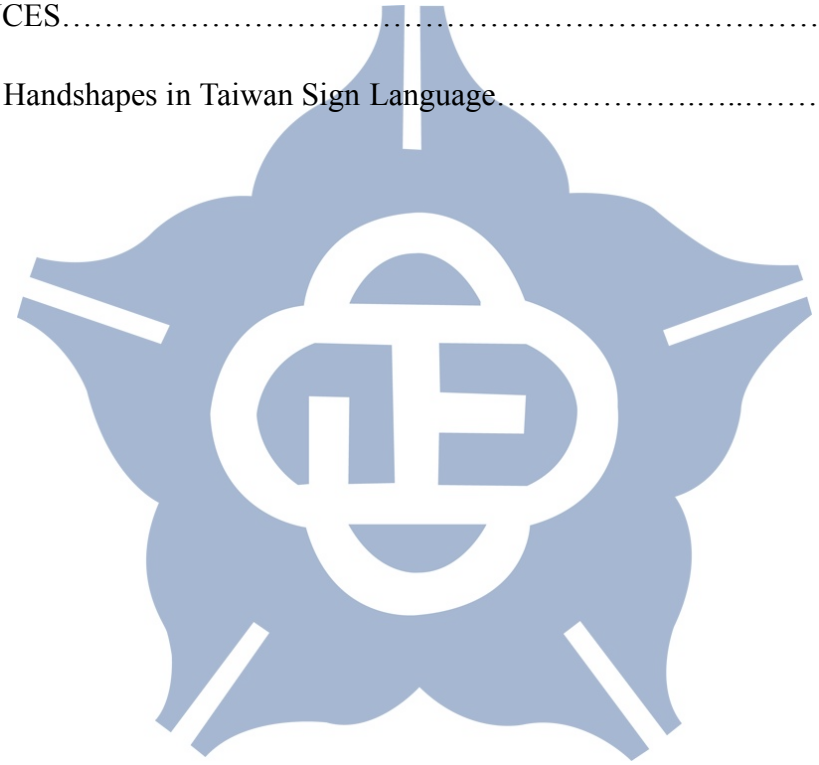
Chapter 3 THE FORMS OF BODY CLASSIFIERS IN TSL…..……..…...25
3.1 Introduction……25
3.2 Non-projected form……26
3.3 Projected form……..…34
3.4 The occurrence of the non-projected form and the projected form……40
3.4.1 Projected form precedes non-projected form……..……...40
3.4.2 Non-projected form precedes projected form……..……...47
3.4.3 Summary……..54
3.5 Concluding remarks……...54

Chapter 4 THE FUNCTIONS OF BODY CLASSIFIERS IN TSL……..……..57
4.1 Introduction……57
4.2 The prominence of the arguments……..58
4.2.1 Making the first argument prominent……...58
4.2.2 Making the second argument prominent……..66
4.2.3 Summary……72
4.3 Arguments with different messages in the same event……..72
4.4 Concluding remarks……...80

Chapter 5 CONCLUSION……...……82

REFERENCES……85

Appendix: Handshapes in Taiwan Sign Language……..……89



CHAPTER 1

INTRODUCTION

1.1 Introduction

Signed languages are systematically different from spoken languages since the former are in manual-visual language system whereas the latter are in auditory-vocal language system (Stokoe 1960; Stokoe, Casterline, and Croneberg 1965; Meier 2002; Tai 2005). Sign language users express themselves by using the hands as the articulator. The first linguist to give much attention to sign language phonology was Stokoe (1960), who suggested that signs are composed of smaller parts, the phonemes. According to Stokoe, the phonemes occur simultaneously in signed languages but sequentially in spoken languages. Three types of phoneme are in his study: active handshapes, location, and movement. Later, Battison (1978) added the orientation as the fourth phoneme type.

Since signed languages are in a manual-visual modality, space is crucial for sign language users to describe events. The syntactic structure is shown by the use of signing space. For example, the three types of verbs are making use of locations in the signing space. The three types of verbs are plain verbs, agreement verbs, and spatial verbs (Padden 1988, 1989). Plain verbs do not agree with their arguments through the movement in the signing space, and they are mostly body-anchored. Agreement verbs inflect for their arguments, agreeing with the object or subject by the movement in the singing space. Spatial verbs include the use of classifier constructions and they move in the signing space according to the topographic space rather than to the syntactic space as in the case of agreement verbs (Sutton-Spence and Woll 1999: 129-130). The topographic space refers to a spatial layout in the signing space while the syntactic space refers to the depiction of grammatical relation between the referents in the

signing space.

Although the hands play an important role when signing, the nonmanual features are also a crucial part within the communication in sign languages. The nonmanual features contain facial expression, head movements (e.g., tilts, nods, or shakes), muscle tenseness (e.g., tense, lax, or neutral) and upper body positions (Baker and Padden 1978; Liddell 1980). Fischer and van der Hulst (2003) have pointed out the facial expression can function as intonation does in spoken languages. In Taiwan Sign Language (hereafter, TSL), the use of nonmanual components have been studied by some researchers (see Su 2011; Chen 2012; Hung 2012).

It has been noticed that not only the hands but also the body can deliver messages in sign languages. Take for example the verb phrase WASH HAIR in TSL, the verb phrase WASH HAIR is signed on the head with the hands moving back and forth, depicting the action of washing hair. In expressing the concept 'I washed my hair', the verb form can be identical to the one in 'I washed my brother's hair'. Both of the verbs are signed on the signer's head but the meanings are distinct since the signer views himself/herself as the third person 'brother' in 'I washed my brother's hair'. In that situation, the signer's body represents the referent whose hair has been washed. In other words, it is the 'body' which makes the distinction in sentence meaning.

There are various terms in sign linguistics to refer to this kind of use of signer's body, for example, 'body classifier' (Supalla 1986), 'constructed action' (Metzger 1995; Aarons and Morgan 2003), or 'full form pronoun' (Kegl 2003). In Supalla (1986), the term 'body classifier' is different from other types of classifiers because it involves the signer's whole body, referring to an individual animate object. That is, the signer's body is viewed as a marker to represent the body of the referent. The example of 'body classifier' illustrated by Supalla (1986) is the verb phrase HIT IN

THE EYE. In this verb, the signer moves his closed-fist hand toward one of his eyes to represent someone is hit in the eye. In that situation, the signer's body represents the referent's body, so the signer uses his eye area to illustrate the affected location of the patient.

Morgan and Woll (2003) have pointed out if the verb phrase HIT IN THE EYE is not interpreted as reflexive, then it contains two referents, in which one is the hitter (agent) and the other is the person got hit (patient). They argue that the verb phrase HIT IN THE EYE is a passive form since the agent role is left empty. The body classifier which is incorporated into the verb phrase represents the patient role. To illustrate the agent role, the verb phrase should be signed at two locations, the signing space and the body part. To put it clearly, the British Sign Language signer signs the verb 'hit' toward the signing space (Verb A) followed by the same verb moving toward his/her body part (Verb B). The construction of the adjacent verbs is termed as 'AB verb construction' in British Sign Language (Morgan and Woll 2003). Hence, the agent and the patient roles can be represented independently through AB verb construction in British Sign Language.

In TSL, signers use body classifiers when describing the concept 'someone helped someone else do something'. It is observed that one of the forms of the verb phrase in the verbal complement of the verb 'help' is identical to Morgan and Woll's (2003) 'AB verb construction' in British Sign Language. Besides, the TSL signer can also sign the verb phrase with reverse order compared with AB verb construction, that is to say, the verb is first signed on the signer's body part followed by the other same verb moving away from the body toward the signing space. The example is illustrated as follows.

(1) I HELPED SISTER WASH.HAIR$_{\text{non-projected}}$ WASH.HAIR$_{\text{projected}}$.

'I helped my sister wash her hair.'

a. I

b. HELPED

c. SISTER

d. WASH.HAIR$_{\text{non-projected}}$

e. WASH.HAIR$_{\text{projected}}$

Figure 1.1

In expressing the concept 'I helped my sister wash her hair', the verb phrase WASH HAIR is first signed on the signer's body with both hands scratching the head, the non-projected form, as shown in figure 1.1d, and then it is signed with the same action in front of the body in the signing space, the projected form, as shown in figure 1.1e. In figure 1.1d, the signer's body represents the second argument 'sister'; however in figure 1.1e, the argument 'sister' is represented by the projected body classifier while the argument 'I' is by the signer's whole body.

1.2 The main issues of the thesis

To explore the use of body classifiers in TSL in expressing the concept 'someone helped someone else do something', there are three major issues in this thesis. The first issue is about the verb forms of the verb phrase in the verbal

complement of the verb ‘help’ in TSL. The verb phrases we choose for this complement involve physical actions which are done to the body, such as ‘wash hair’, ‘zip up clothes’, ‘put on glasses’, and so forth.

In TSL, body classifiers can be categorized into non-projected body classifiers and projected body classifiers. The non-projected body classifier refers to the patient of an action is represented by the signer’s body and the verb form is termed as the non-projected form; the projected body classifier refers to the patient of the action is projected onto the signing space and the verb form is called the projected form. The verb forms of the verb phrase ‘zip up clothes’ are illustrated in examples (2) and (3).

(2) I HELPED BROTHER CLOTHES ZIP.UP.CLOTHES$_{\text{non-projected}}$.

‘I helped my brother zip up his clothes.’

a. I b. HELPED c. BROTHER d. CLOTHES

e. ZIP.UP.CLOTHES$_{\text{non-projected}}$

Figure 1.2

(3) I HELPED HIM CLOTHES ZIP.UP.CLOTHES$_{projected}$.

'I helped him zip up his clothes.'

a. I

b. HELPED

c. HIM

d. CLOTHES

e. ZIP.UP.CLOTHES$_{projected}$

Figure 1.3

From the verb forms of the verb phrase 'zip up clothes', we can see the difference between figures 1.2e and 1.3e. The verb phrase is in the non-projected form in figure 1.2e but in the projected form in figure 1.3e. In addition to these two types of verb form, the 'AB verb construction' mentioned in the previous section is also discussed. Therefore, the first issue in this thesis is to explore the verb forms in the verbal complement of the verb 'help' in TSL when describing the concept 'someone helped someone else do something'.

The second issue is about the distributions of the projected body classifiers. The occurrence of the projected form is marked in the TSL sentence. Therefore, we explore in what condition the projected body classifier can occur and in what condition it can't occur. For example, it doesn't occur when the patient of the verb

‘help’ is in the first person singular pronoun. The example is given in (4).

(4) *SISTER HELP$_{\rightarrow self}$ ME CLOTHES ZIP.UP.CLOTHES$_{projected}$.

Because the first person pronoun ‘I’ is signed by pointing to the signer’s own body, the connection between the first person singular pronoun and the signer’s body is tight. In this example, since ‘me’ is the patient of the verb ‘help’, the action ‘zip up clothes’ should be signed on the signer’s body rather than in the signing space. In this situation, the occurrence of the verb in the projected form results in an ungrammatical sentence.

The third issue is the function of the projected body classifiers. The occurrence of the projected body classifiers is evoked by some reasons, and one of them is that the signer can depict the agent’s action. We therefore add the adverbs like ‘carefully’, ‘annoyingly’, and ‘laboriously’ to modify the main verb ‘help’ and see how the adverbs influence the verb forms in the verbal complement of the verb ‘help’. Besides, we also add the information about the patient’s reaction so that we can examine how the information is delivered. Examples (5) and (6) give the illustrations.

(5) MISS WANG CAREFULLY HELPED MISS LIN
ZIP.UP.CLOTHES$_{projected}$ ZIP.UP.CLOTHES$_{non\text{-}projected}$.
‘Miss Wang carefully helped Miss Lin zip up the clothes.’

a. MISS WANG

b. CAREFULLY

c. HELPED

d. MISS LIN

e. ZIP.UP.CLOTHES$_{projected}$

f. ZIP.UP.CLOTHES$_{non\text{-}projected}$

Figure 1.4

(6) HE HELPED BROTHER WASH.HAIR$_{non\text{-}projected}$. BROTHER WASH.HAIR$_{non\text{-}projected}$ WASH.HAIR$_{non\text{-}projected}$+ANNOYED.

'He helped his brother wash hair. His brother was annoyed when being helped wash hair.'

a. HE

b. HELPED

c. BROTHER

d. WASH.HAIR$_{non\text{-}projected}$

e. BROTHER

f. WASH.HAIR$_{\text{non-projected}}$

g. WASH.HAIR$_{\text{non-projected}}$ +ANNOYED

Figure 1.5

In example (5), the adverb CAREFULLY is used to modify the main verb ‘help’. The verb phrase ‘zip up clothes’ occurs in the projected form as figure 1.4e shows. In example (6), the predicate ANNOYED is used to describe the feeling of the patient ‘brother’ when he was helped wash hair. The verb phrase ‘wash hair’ in (6) does not occur in the projected form but in the non-projected one as figures 1.5f and 1.5g show.

By examining the examples in (5) and (6), two questions are concerned with the third issue. First, why should the projected form occur in some situations? Second, what messages does the projected form bring?

1.3 Methods in eliciting data from informants

The data in this thesis mainly come from Dr. Jung-hsing Chang’s research in Taiwan Sign Language (NSC98-2410-H194-093-MY3 and NSC101-2410-H-194-107). Three informants participating in this research are Yu-jing Dai (戴鈺靜), Jun-ming Yu (于俊明) and Shi-zhen Huang (黃士真).

The TSL sentences used in this thesis are elicited by showing the informants the concept of ‘someone helped someone else do something’, and they were asked to describe the concept in TSL. Besides, the manner adverbials like ‘carefully’, ‘annoyingly’, or ‘laboriously’ were used to modify the actions so that we could examine whether the projected body classifiers were allowed to occur or not. During

the elicitation of the TSL data, we had some discussions back and forth to make both sides understand each other.

1.4 The organization of the thesis

This thesis is organized as follows. In chapter 2, previous discussions of the use of a signer's body in sign languages are reviewed. In addition, the body classifiers are divided into projected body classifiers and non-projected body classifiers in our analysis. In chapter 3, we examine the sentence forms containing projected body classifiers and non-projected body classifiers when expressing the concept of the transitive events 'someone helped someone else do something'. In chapter 4 we explore in what situation the projected body classifiers are allowed to occur, and in what situation they are not allowed with the tests of the agentive adverbials ('carefully', 'happily', 'annoyingly', and 'laboriously') as well as some predicates which describes the patient role. Chapter 5 concludes the thesis.

CHAPTER 2

PREVIOUS DISCUSSIONS OF THE BODY IN SIGN LANGUAGES

2.1 Introduction

In sign languages, information can be delivered by signers' hands as well as bodies. It has been observed that signers frequently use bodies or body parts to portray an action of a living creature. The use of body has been discussed in various sign languages, such as Danish Sign Language, British Sign Language, South African Sign Language, German Sign Language and Taiwan Sign Language (see Engberg-Pedersen 1992; Sutton-Spence and Woll 1999; Aarons and Morgan 2003; Perniss 2007; Su 2011).

Sometimes, it seems necessary to depict an animate referent by using body action since hands cannot fully suffice the depiction. In this situation, the signer maps him/herself to the animate entity and represents the posture or action of the referent. McNeill (1992) has discussed the phenomena as iconic gestures. In addition, the correspondence between the signer's body and the animate referent is termed as 'constructed action' (Winston 1991 1992; Metzger 1995; Liddell and Metzger 1998; Aarons and Morgan 2003; Quinto-Pozos 2007). Those researchers have pointed out constructed action aims to describe events precisely and deliver the information more specifically.

2.2 Signer's body corresponds to referent's body

In describing events, sometimes signers map themselves to the referents that they are discussing, making the narration more vivid. In the classifier system, the use of handling classifiers and the body classifiers signifies the connection between the signer's body and the referent's body.

Handling classifiers represent the handshapes when people manipulating objects, like the handshape /Bent C/, the four fingers are bent and opposed to the thumb, which depicts the holding of a flat and thick object (Supalla 1986; Meir and Sandler 2008). The use of handling classifier signifies that there is an agent handling an object.

Supalla (1986, 1990, 2003) points out body classifiers are used to refer to the body of the referent when depicting the posture of the referent or manner of the movement. Body classifier is different from the other classifiers in which the handshapes stand for semantic categories or shapes of the objects. He claimed four restrictions in using body classifiers. First, the referent should be an animate object. Second, a body classifier can only mark one referent in one time when incorporating with a verb. Third, the use of body classifiers is restricted by the sizes of the referents. Fourth, if a body classifier is used to depict a motion event, it cannot combine with the movement path. However, a body classifier can combine with manner of movement.

Handling classifiers and body classifiers can occur in a single sentence. Their occurrence may denote that the signer him/herself corresponds to the referent to describe an action. Handling classifiers mainly focus on the handshape, signifying how people manipulate an object. Body classifiers focus on the signer's whole body which can represent an animate referent. Using body classifiers aims to demonstrate the referent's action. When these two types of classifiers are used, it entails that there is an agent in the event. Besides, the body classifiers can apply to discourse level, so the use of body classifiers becomes more complex.

Role shift occurs when the signer mentions two referents, and then the signer shifts the body back and forth between two locations of the referents, taking the first person point of view in a narration. The signer randomly points to a specific signing

space as referent A, and the space opposite to A as referent B, so the shift of the signer's body from the neutral space to the position of referent A causes the agreement with the indexed pronoun (Kegl 2003).

The concept of role shift is based on the use of body classifiers. This situation usually occurs in discourse level which involves two or more referents. Signer may shift back and forth among the referents to represent different characters. A specific location in signing space may be set for referent A while another location opposed to it may for the referent B. After setting the positions for the characters, the signer can describe an event by shifting his/her own body to the location of referent A to play A's role or to the location of referent B to play B's role.

It was claimed by Morgan and Woll (2003) that body classifiers can occur at the sentential level instead of the discourse level, so it seems more appropriate to term 'role shift' as 'referential shift'. Likewise, referential shift means that the signer takes the first person point of view to describe the other referent but not the signer himself/herself (Poulin and Miller 1995).

2.3 Roles of the body

In general, verbs of sign languages are mainly categorized into three classes: plain verbs, agreement verbs, and spatial verbs (Padden 1988, 1989; Johnson and Liddell 1987; Sutton-Spence and Woll 1999). These three different classes of verbs encode different grammatical features of their arguments. Agreement verbs encode the grammatical relations of the arguments, the person and the number features through the orientation of the palms and the movement of the hands in syntactic space. Spatial verbs use topographic space to signify the movement of the referent in the real world, involving concept of path which means that the direction of the hand movement encodes the source and the goal in a motion event (Meir et al. 2007, 2008). In other

words, the locations of the source and the goal encoded by the spatial verbs are analogically; they don't represent grammatical arguments (Padden 1988). Plain verbs, however, neither move through space to show grammatical relation nor encode any grammatical features of the arguments.

Previous descriptions of verb classes mainly focus on the role of the hands in encoding the grammatical features. Meir et al. (2007, 2008) have claimed that hands are active articulator and they bear most of the information in sign languages. In their study, they reconsider the verb types in American Sign Language and Israeli Sign Language with respect to the role of the body.

2.3.1 Body as subject

In plain verbs, especially body-anchored plain verbs, the body corresponds to subject but does not encode grammatical person. To begin with, some body-anchored plain verbs are motivated by the correspondence between the formational elements of an expression and the components of the meaning, and it is termed as iconicity in Taub (2001) and Russo (2004). In iconicity, there is an explicit relation between form and meaning. Take the sign EAT for example, the handshape /Flat O/ stands for the meaning which someone is holding an object (food); the mouth of the signer represents the mouth of the eater; the movement of handshape /Flat O/ toward the mouth refers to putting the food into the mouth.

Later Meir et al. put an emphasis on the form, the location of the sign, and its meaning, the mouth of the eater. They point out that in the event of eating the signer's body represents a specific argument, namely, the agent. The body does not represent first person since it is still signed on the mouth even though in the sentences like 'you eat' or 'he eats'. They also examine other iconic body-anchored verbs and categorize them into psych verbs, verbs of mental activities, verbs of perception, verbs of saying,

and change-of-state verbs. Then they find the argument related to human body takes the highest ranking place. Just like the sign EAT, the first argument of EAT is the agent and the second argument the patient, and the body represents the agent. In the other sign SEE, one of the verbs of perception, the first argument is the experiencer and the second argument the theme, and the body represents the experiencer. They conclude that the body is associated with the subject of the verb, the highest ranking thematic role, rather than a specific thematic role. The conclusion is in accordance with the general principles in terms of the mapping between thematic structure and syntactic structure (Fillmore 1968; Jackendoff 1990; Grimshaw 1990; Falk 2006 and others).

2.3.2 Body as first person

In inflected forms of agreement verbs, the body is viewed as the first person pronoun rather than the subject. This statement does not contradict the 'body as subject'. In the citation forms of agreement verbs, the movement of the hands is concerned with the body. In the verb GIVE, the hands move away from the body which is the source of the transfer; in the verb TAKE, the hands move toward the body which is the goal of the transfer, and this kind of verbs is called 'backwards verbs'. By the way, backwards verbs are the exceptions because it is the end point of this kind of verb that marks the subject (Sutton-Spence and Woll 1999). In the citation forms of the verbs GIVE and TAKE, the subject is represented by the body.

As for the inflected forms of agreement verbs, they incorporate grammatical person and syntactic roles. Agreement verbs are established by using the syntactic space around the signers. Speaking of syntactic space, it is necessary to introduce the pronominal system of sign languages. In this system, the signer's body represents first person whereas the locations in the signing space are related to the non-first person.

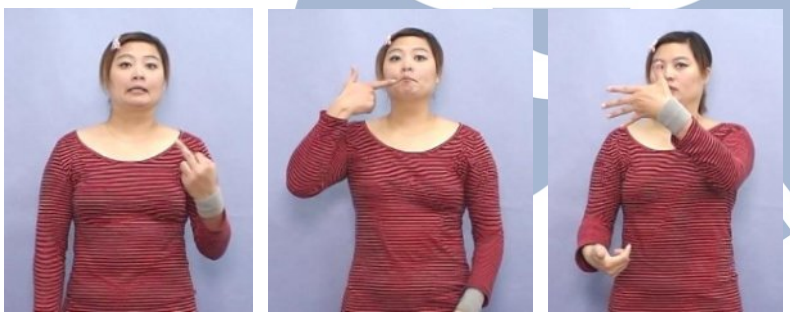
To establish a third person referent in a specific location in the signing space, the signer signs the referent in a location first, and then points to that location or gazes at it. The location is known as ‘referential locus’.

After establishing the referential locus, the movement of the hands between the referential loci manifests the syntactic and semantic roles of the arguments of the verb. The start point and the end point of a sign correspond to the referential loci which manifest the pronominal features of the arguments. The subject argument and the object argument of a verb are determined by the direction of the hands’ movement in syntactic space.

In these forms, the body represents the first person while the locations in the signing space represent the non-first-person referents. There is a TSL example shown as follows to make the illustration.

(1) BROTHER_i FATHER_j $\text{ASK}_{i \rightarrow j}$

‘The brother asked the father.’



a. BROTHER_i b. FATHER_j c. $\text{ASK}_{i \rightarrow j}$

Figure 2.1

In this example, the signer establishes the locations of the verb’s arguments by signing BROTHER at the left side of her body (Referential locus i) and FATHER at the right side (Referential locus j), illustrated as figures 2.1a and 2.1b. Both of the arguments are non-first-person referents, so the signer’s body is not getting involved.

After that, the verb ASK is signed with the handshape /5/, palm in, directing from left to right (Referential locus i→ Referential locus j). The start point of the verb corresponds to referential locus i which represents the argument BROTHER while the end point corresponds to referential locus j which represents FATHER. According to the feature of agreement verbs, the start point usually represents the subject whereas the end point represents the object, so the argument BROTHER is the subject and FATHER is the object. Therefore, the interpretation of this TSL sentence is 'The brother asked the father.'

If the location of the argument BROTHER is established in the signing space, and the verb ASK with its finger points directs from the location of BROTHER toward the signer's body, then it is interpreted as 'the brother asked me'. Therefore, the signer's body in agreement system represents first person 'me'.

2.3.3 The body part of human body

The body can stand for a human body, including the organs like eyes, ears, chest, arms, legs etc. Directly pointing to the organs signifies the organs themselves, so the signs of the organs are deictic. Performing an action at a specific body part denotes where the event specifically takes place. In describing the event 'the surgeon cut open my chest', an example given by Meir et al. (2008), the sign OPERATE contacts shortly to the signer's own sternum. Likewise, to describe a brain surgery, just sign OPERATE at some part of the head.

In TSL, a specific body part also can point out the location of an event. Take the signs ACHE and HIT for examples. The verb ACHE is signed with five curved fingers, palm up (handshape /Bent 5/), and wriggle at the part of the body. It can be signed elsewhere like the head or the chest to refer to a headache or a chest ache. As for the verb HIT, it can be signed at a proform first and then moves to a specific body part,

like the head, to refer to the location of the action, giving the concept 'someone is hit at the head' (Chang 2009).

The verbs discussed above are spatial verbs. In addition, the verbs OPERATE and ACHE are called 'locative verbs' by Padden (1989). Although the handshape does not bring information about the object, it does represent the location of the event by using a location in the real world.

2.3.4 Summary

Verbs in sign language are categorized into three types like plain verbs, agreement verbs and spatial verbs. Meir et al. (2008) have provided a further discussion in viewing these verbs based on the three verb types; the features of the verbs are discussed with respect to the signer's body. They have also illustrated the overview concept in a table which is shown as follows.

Verb class	Body	Hands	Space
Plain verbs	Corresponds to subject	Do not encode referential properties of arguments	
Agreement verbs	1st person	Encode syntactic and semantic roles of arguments	Non-1st-person referents
Spatial verbs	Spatial reference point or not involved	Encode locative roles of arguments	Locations in space

Table 1: Verb classes redefined (Meir et al. 2008)

2.4 The signing space corresponds to non-first-person referent

As it has mentioned before, in the pronominal system of sign languages, the referential locus is associated with non-first-person referent. In Kegl (2003), the use

of the signer's body can be viewed as full form pronoun which is one types of pronoun in American Sign Language pronoun system. The full form pronoun contains two types: one is to use the signer's body to represent first person, the other is to use a projected form which is an invisible analogue of the body in the signing space to represent second person or third person pronouns. The projected form refers to the projected pronoun, the subclass of pronoun which is not represented in a visible and physical way.

2.5 Strategies in describing transitive events involving body actions

The verbs especially with the semantic property of physical actions, like COMB HAIR, WASH HAIR, and WASH FACE though can be easily interpreted as reflexive like 'I combed my hair' or 'I washed my face', it is complicated in sentence forms when getting involved in transitive events like 'I combed her hair' or 'I washed his face.' There are two strategies to disambiguate sentence meanings, one is to use the AB verb constructions and the other is to split event into two sub-events.

2.5.1 AB verb constructions

In Morgan and Woll (2003), they point out if the verb phrase HIT IN THE EYE is not interpreted as reflexive, it contains two referents, one is the hitter (agent) and the other is the person got hit (patient). They argue that the verb phrase HIT IN THE EYE is a passive form since the agent role is left empty. The body classifier represents the patient role. In order to illustrate the agent role, the verb phrase should be signed in two locations, one is the signing space and the other is the body. Therefore, the construction of the adjacent verbs is termed as 'AB verb construction' in British Sign Language. That is, a verb which moves away from the signer's body to the signing space (Verb A) precedes the other verb which moves toward the signer's body (Verb

B).

It has been observed in British Sign Language that signers use a paired construction, i.e., one verb moves toward the signing space immediately followed by the other same verb moving toward the signer's body, to express the events like 'the girl combs the other girl's hair', 'the girl paints the boy's face', or 'the boy puts a hat on the snowman's head' (Morgan and Woll 2003). The paired construction is composed of Verb A and Verb B, the former depicts the agent's action of 'combing', 'painting', or 'putting' while the latter points out the location on the body part of the action. In Morgan and Woll's (2003) study, Verb B refers to that the body classifier represents the patient role in question whereas Verb A carries the agreement information.

In addition to AB verb constructions in British Sign Language, the verb order varies from sign language to sign language. For example, Al-Sayyid Bedouin Sign Language allows the verbs performed on the signer's body (self), on the location in signing space (other), first on the signer's body and then toward the location in space (self-other), and in reverse order (other-self). Israeli Sign Language allows the verbs occur in self-other, other-self-other, and self-other-self (Meir et al. 2008).

To sum up, to describe the complex event like 'I brushed her hair' in sign language, one of the strategies is to sign two verbs, one is directed to the signer's body while the other is toward the location of the referent in the signing space; the former points out the specific location of the body while the latter specifies the grammatical object.

2.5.2 The sub-events

As for the other strategy, it breaks one transitive event into two sub-events, illustrating what each of the participants is doing in the whole event. For example, the

event ‘a girl brushed her mother’s hair’ can be expressed by two sub-events as example (2) shows.

(2) MOTHER SIT; GIRL COMB.

‘A girl brushed her mother’s hair.’ (Meir et al. 2008)

To describe each participant specifically, the complex event is cut into two sub-events. In the first sub-event MOTHER SIT, the posture of the participant MOTHER is depicted by the verb SIT; in the other sub-event GIRL COMB, the verb COMB can be signed on the signer’s body or on the signing space signifying the referent MOTHER. The verb COMB can even occur in AB verb construction which further points out that it is not interpreted as reflexive.

2.5.3 Summary

When describing the interaction between two referents in one transitive event, two strategies can be used. One is signing the verb at a location in the signing space first and then on the signer’s body, and this paired construction is called AB verb construction. The other is to split one transitive event into two sub-events. By doing so, each character’s action can be described independently and precisely.

2.6 Body classifier in TSL

In TSL, body classifier can be categorized into non-projected body classifier and projected body classifier in the event ‘someone helped someone else do something’. The verbal complement of the verb ‘help’ is in relation to the body part and physical action in TSL. In describing the action of the event, signers may play one of the roles, like the patient or the agent and carry out the action either with the body pronoun or with the projected body pronoun. Therefore, it is the location in

which the hands carry out the action that makes the body classifier the patient role or the agent role.

A following sentence such as ‘I helped my sister wash her hair’ reveals that the verb phrase ‘wash hair’ can occur in front of the signer’s body in the signing space, namely, WASH $HAIR_{projected}$, denoting the body an agent role.

(3) I HELPED SISTER $WASH.HAIR_{non\text{-}projected}$ $WASH.HAIR_{projected}$.

‘I helped my sister wash her hair.’

a. I

b. HELPED

c. SISTER

d. $WASH.HAIR_{non\text{-}projected}$

e. $WASH.HAIR_{projected}$

Figure 2.2

When the action is performed on the signer’s body by the hands, the signer’s body represents the patient, and the body is termed as the non-projected body classifier (figure 2.2d). When the action is performed at the location in the signing space, the patient is not represented by the signer’s body but the projected body classifier which has been projected onto the signing space. Since the patient is represented by the projected body classifier, the signer’s entire body can depict the

agent's action (figure 2.2e). The verb phrase WASH HAIR is in the projected form.

The signer undergoes the referential shift from figure 2.2d to figure 2.2e. But more importantly, notice that there is no clear cut between agent and patient in figure 2.2d since the action is carried out by the signer's hands and performed on the signer's head, that is to say, the signer's hands represent the agent 'I' while the static body represent the patient 'sister'. However in figure 2.2e, the signer performs the action WASH HAIR in the signing space, signifying that the patient has been projected onto the space. In that case, the signer's whole body represents the agent instead of the patient; the location in the signing space represents the patient.

2.7 Concluding remarks

In this chapter, we first gave an overall picture that signers sometimes correspond to the referents in question when describing events. In classifier constructions, the handling classifier is a common correspondence between the signer and the manipulator. But, the body classifier refers to the signer's body that can play the patient role or the agent role of an action. If there are two or more referents in an event, then signer may shift between the roles to represent different characters.

After that, we take a closer look at the roles of the body. According to Meir et al. (2008), body can serves as subject in plain verbs, first person in agreement verbs and indicates body part of human body in terms of spatial verbs. The use of body also correlates with the signing space. The location in the signing space opposed to the signer's body represents the non-first-person pronoun, namely, the referential locus of the pronominal system in sign language. In the pronoun system of American Sign Language, full form pronoun contains the body pronoun and the projected body pronoun, the former refers to the use of the signer's body representing the first person pronoun while the latter refers to the invisible analogue of the body in the signing

space illustrating the non-first-person pronoun (Kegl 2003).

Based on this knowledge, we can observe the strategies that are used in events narration. Morgan and Woll (2003) have claimed that when expressing a transitive event in British Sign Language, signers may use verbs in a paired-construction, AB verb construction, to depict the agent's action followed by the patient's affected body part. In addition, Meir et al. (2008) have suggested another strategy, the sub-events strategy. In that situation, signers may break a transitive event into two sub-events, and describe each participant's action independently.

In TSL, we have the situation 'someone helped someone else do something,' and one of the verb forms of the verbal complement is identical to the AB verb construction in British Sign Language. There are various verb forms to depict the 'help' event, we therefore divide body classifier into non-projected body classifier and projected body classifier (cf. Kegl 2003) in order to distinguish the agent from the patient.

CHAPTER 3

THE FORMS OF BODY CLASSIFIERS IN TSL

3.1 Introduction

In describing an event like 'the girl combs the other girl's hair' in British Sign Language, the signer signs a verb moving away from his own body, which is termed as 'verb A', followed by the other same verb moving toward his body, which is 'verb B'. This paired construction formed by the adjacent verbs is termed as 'AB verb constructions' by Morgan and Woll (2003).

In sentence 'Someone helped someone else do something', the verb 'help' takes two NP arguments: the first NP argument 'someone' and the second NP argument 'someone else'. The verb phrase 'do something' is the verbal complement. One of the verb forms of this complement in TSL is very close to the AB verb construction in British Sign Language, that is, their order can be reversed. The order of AB verb form in BSL can reverse like BA verb construction in TSL. Take TSL for example, in expressing the concept 'I helped my sister wash her hair', the verb phrase WASH HAIR is first signed on the signer's body with both hands scratching the head (verb B), and then the hands move from the head to the front of the signer's body, doing the same action at a specific location in the signing space (verb A). In this example, TSL also uses a paired construction to express the concept, but the verb order is reverse compared with AB verb construction in British Sign Language.

In TSL, there are four forms to express the verbal complement 'do something' of the main verb 'help'. The first one, also the most unmarked one, is the non-projected form referring to the verb that is signed on the signer's body. The second one is the projected form which refers to the verb being signed at a specific location in the signing space. As for the third and the fourth, they are the

combinations of the non-projected form and the projected form but different in the verb orders. In the third form, the projected form precedes the non-projected form, namely, the AB verb construction. In the fourth one, the non-projected form precedes the projected form, the BA verb construction.

In this chapter, we aim to represent the four verb forms of the verbal complement of the verb 'help'. Besides, we explore the manifestations of the thematic roles by examining the verb forms. Section 3.2 not only introduces how the non-projected form represents the patient and agent roles but also tells which argument the non-projected form marks. Section 3.3 illustrates how the projected form manifests the patient and agent roles independently. Section 3.4 discusses the alignment of non-projected form and projected form.

3.2 Non-projected form

When the verbal complement of the verb 'help' is the verb phrase associated with physical action such as 'put on the earrings', 'wash hair', or 'zip up clothes', it can be represented by four forms. One of them is the non-projected form which is the most unmarked since it is signed on the signer's body which is identical to the citation form. Besides, its distribution is another unmarked feature because the non-projected form can occur in all situations no matter the arguments of the verb 'help' are first, second, or third person. This section provides some of the situations of non-projected form in TSL.

(1) I HELPED HIM PUT.ON.EARRINGS$_{\text{non-projected}}$.

'I helped him put on the earrings.'

a. I

b. HELPED

c. HIM

d. PUT.ON.EARRINGS$_{\text{non-projected}}$

Figure 3.1

The verb 'help' takes two arguments, the subject 'I' and the object 'him'. It also contains a verb phrase 'put on the earrings' as the verbal complement. The argument 'I' performs the action 'help', assisting the argument 'him' with the action 'put on the earrings', so the first argument is the agent. Since the argument 'him' is affected by the action 'help', it is the patient.

In signing the verb phrase PUT ON EARRINGS, both of the thumbs and the index fingers are opposed to each other while the rest of the fingers are extended (handshape /F/), and both hands move toward the earlobes of the signer's body, illustrated in the second figure of 3.1d.

The handshape /F/ is the handling classifier, representing the holding of the earrings. The inward movement corresponds to the action PUT ON which is manipulated by the agent 'I'. The verb phrase PUT ON EARRINGS moves toward

the signer's body and locates at the earlobes which is associated with the affected body part of the patient 'him'.

Within this non-projected verb form, the agent, namely, the first argument 'I', is represented by the hands; the patient, the second argument 'him', is represented by the signer's body, the non-projected body classifier.

In the following example, the verb phrase ZIP UP CLOTHES illustrates the patient by applying the non-projected body classifier (figure 3.2e).

(2) I HELPED BROTHER CLOTHES ZIP.UP.CLOTHES$_{\text{non-projected}}$.

'I helped my brother zip up his clothes.'

a. I b. HELPED c. BROTHER d. CLOTHES

e. ZIP.UP.CLOTHES$_{\text{non-projected}}$

Figure 3.2

This sentence structure is the same as the one in the previous sentence. The verb 'help' takes the arguments 'I' and 'brother' and 'I' is the agent and 'brother' is the patient of the verb 'help'. The verb phrase 'zip up clothes' is the verbal complement.

When signing the non-projected form of the verb phrase ZIP UP CLOTHES, the

thumbs and the index fingers of both hands are opposed to each other while the other fingers are closed (handshape /Bent-baby O/); both hands are at the stomach position and one of the hands move upward along the front torso (figure 3.2e).

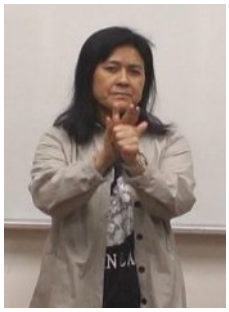
In figure 3.2e, the handshape /Bent-baby O/ is the handling classifier, representing the holding of a small and flat object which refers to the zipper in this sentence. The upward movement corresponds to the action ZIP UP manipulated by the agent 'I'. The location of the verb phrase is associated with the affected body part of the patient 'brother'. Briefly, the signer's hands together with the movement represent the agent 'I', and the signer's body represents the patient 'brother'. As you can see from figure 3.2e, the second argument 'brother' is represented by the non-projected body classifier.

We then change the person of the first argument and the verb phrase in examples (3) and (4) with the same syntactic structure. Compared with example (2), it does not constrain the use of the non-projected form in examples (3) and (4) even with the change of the first person pronoun 'I' to third person pronoun 'he' within the first argument of the verb 'help'.

(3) HE HELPED GRANDFATHER PUT.ON.GLASSES$_{\text{non-projected}}$.

'He helped his grandfather put on his glasses.'

a. HE



b. HELPED

c. GRANDFATHER

d. PUT.ON.GLASSES$_{\text{non-projected}}$

Figure 3.3

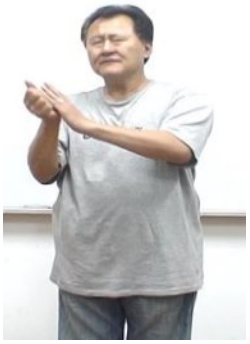
In signing the verb phrase PUT ON GLASSES in the non-projected form, both index fingers and the thumbs are curved while the rest of the fingers are closed (handshape /Bent L/); the hands move toward the signer's face and locate at the area of the eyes, like figure 3.3d shows.

In figure 3.3d, the handshape /Bent L/ represents the holding of the squared frame of the glasses, and its movement directing toward the signer's face represents the action PUT ON manipulated by the agent 'he'. The final location of this verb phrase corresponds to the affected body part of the patient 'grandfather'. Therefore, the patient 'grandfather' is represented by the signer's body, the non-projected body classifier. As for the agent role 'he', it is represented by the hands.

(4) HE HELPED BROTHER PUT.ON.TROUSERS$_{\text{non-projected}}$ TROUSERS.

'He helped his brother put on the trousers.'

a. HE



b. HELPED

c. BROTHER

d. PUT.ON.TROUSERS$_{\text{non-projected}}$ e. TROUSERS

Figure 3.4

When signing PUT ON TROUSERS in the non-projected form, the signer bends his back, closes all the fingers and put the hands beside his thighs, and then moves the hands to the waist position as he straightens his back (figure 3.4d). In the end of this sentence, the noun TROUSERS is mentioned in order to signify the specific kind of outfit. When signing the noun TROUSERS, the fingers are curved and unspread (handshape /C/), moving from a higher position to a lower position to depict the shape of the trousers (figure 3.4e).

In this non-projected verb form shown in figure 3.4d, the signer's hands represents the manipulation of the trousers, and its upward movement demonstrates the agent's action of putting on the trousers. The verb locates at the signer's lower

body part which corresponds to the patient's affected body part, making the patient 'brother' represented by the non-projected body classifier.

The non-projected verb form is unmarked since it can always occur when the two arguments of the verb 'help' are first, second, or third person. There are several other examples as follows.

(5) YOU HELPED BROTHER PUT.ON.TROUSERS$_{\text{non-projected}}$.

'You helped your brother put on his trousers.'

(6) I HELPED YOU PUT.ON.EARRINGS$_{\text{non-projected}}$.

'I helped you put on the earrings.'

(7) FATHER HELPED YOU ZIP.UP.CLOTHES$_{\text{non-projected}}$.

'Your father helped you zip up the clothes.'

There is one other thing that is important for the TSL syntactic structure. In the examples (8) and (9), the orientation of the verb 'help' is different from the ones we have examined. The objects of the verb 'help' in (8) and (9) are first person 'me', so the agreement verb HELP moves to the signer's own body. The non-projected form applies to this syntactic structure.

(8) HE HELPED$_{\rightarrow self}$ ME PUT.ON.EARRINGS$_{non\text{-}projected}$.

'He helped me put on the earrings.'

a. HE

b. HELPED$_{\rightarrow self}$

c. ME

d. PUT.ON.EARRINGS$_{non\text{-}projected}$

Figure 3.5

Here, two arguments are taken by the verb 'help'. Note that the object is 'me', so the verb 'help' moves toward the signer's body to agree with object 'me' (figure 3.5b).

When signing the non-projected form of the verb phrase 'put on earrings', the handshape /F/ moves toward the earlobe of the signer's body, like figure 3.5d shows. In figure 3.5d, the movement of the handshape /F/ corresponds to the action PUT ON which is manipulated by the agent 'he'.

The direction of the agreement verb can specify the location of the object in the syntactic space, so the inward movement signifies the object as first person 'me'. In example (9), the object 'me' of the verb 'help' has been specified by the direction of the verb 'help'.

(9) HE HELPED$_{\rightarrow self}$ ZIP.UP.CLOTHES$_{non\text{-}projected}$.

'He helped me zip up my clothes.'

a. HE b. HELPED$_{\rightarrow self}$ c. ZIP.UP.CLOTHES$_{non\text{-}projected}$

Figure 3.6

In this TSL sentence, the first argument 'he' is the agent and the second argument 'me' is the patient. The non-projected form of the verbal complement is illustrated in figure 3.6c.

Figure 3.6c shows that the combination of the handling classifier (handshape /Bent-baby O/) and its upward movement represents the agent's action 'zip up clothes'. The location of the agent's action refers to the affected body part of the patient. To sum up, the first argument 'he' is the agent and it is represented by the signer's hands; the second argument 'me' is the patient manifested by the non-projected body classifier.

After discussing examples with the non-projected verb form, the following section introduces the use of the projected form in TSL.

3.3 Projected form

The projected form in TSL is expressed when a projected body classifier refers to the patient role of an action and is expressed in the signing space. While expressing the verb phrase in the projected form, the hands should move away from the body and sign at a specific location in the signing space. Here in this section, we examine some

informative instances of this phenomenon.

(10) I HELPED HIM CLOTHES ZIP.UP.CLOTHES$_{projected}$.

'I helped him zip up his clothes.'

a. I

b. HELPED

c. HIM

d. CLOTHES

e. ZIP.UP.CLOTHES$_{projected}$

Figure 3.7

The arguments 'I' and 'him' are taken by the verb 'help' in this sentence. The argument 'I' is subject, while the argument 'him' is object. The verb phrase 'zip up clothes' is the verbal complement of the verb 'help'.

The signer uses handshape /Bent-baby O/ in signing ZIP UP CLOTHES. She first stretches her arms to the space in front of the body, and moves one of the hands upward with the other hand staying at the original position (figure 3.7e). It is interesting to note that the noun CLOTHES is signed before the verb phrase (figure 3.7d) in order to point out the specific location of the verb phrase because the projected form itself does not contact with a specific body part.

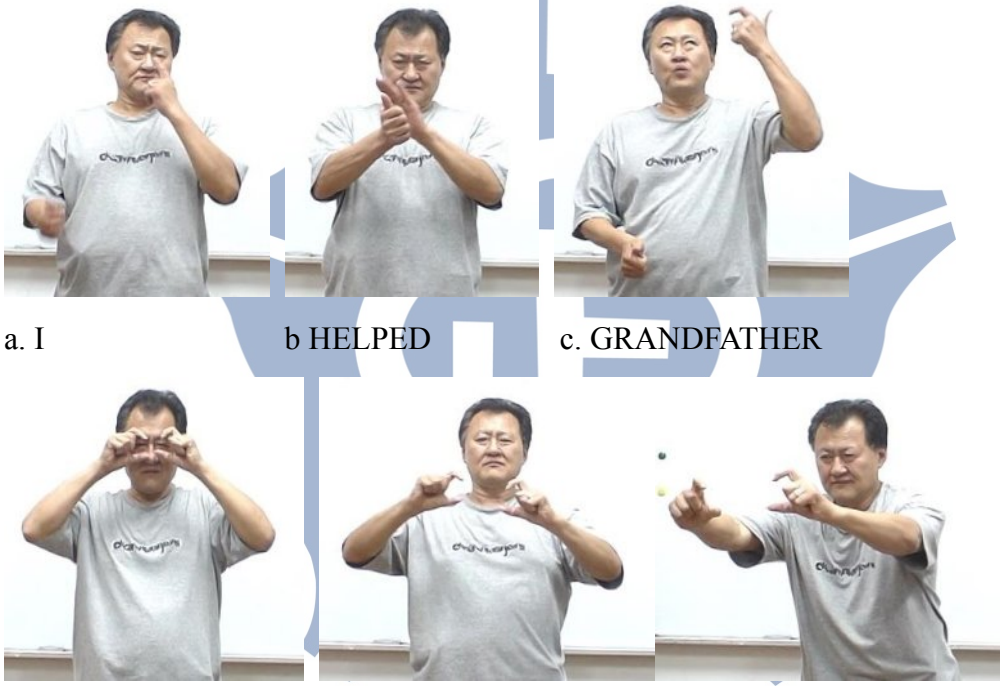
In figure 3.7e, the patient 'him' becomes implicit in the projected form because

it is not represented by the signer's body but the projected body classifier. By doing this, it is easier to tell the agent from the patient, or to put it more precisely, the agent is encoded through the signer's bodily action and the patient through the location in the signing space manipulated by the signer's hands.

The next example shows the same syntactic pattern with the verb phrase PUT ON GLASSES.

(11) I HELPED GRANDFATHER GLASSES PUT.ON.GLASSES$_{projected}$.

'I helped my grandfather put on his glasses.'



a. I b HELPED c. GRANDFATHER

d. GLASSES e. PUT.ON.GLASSES$_{projected}$

Figure 3.8

In TSL to express the verb phrase PUT ON GLASSES in the projected form, the handshape /Bent L/, resembling the holding of the glasses, moves away from the signer's body to the right side of his body in the signing space like figure 3.8e shows. The movement of the handshape /Bent L/ corresponds to the action 'put on glasses' manipulated by the agent 'I'. Zooming out to get a whole picture, we realize that the

signer uses the body classifier to represent the agent role ‘I’.

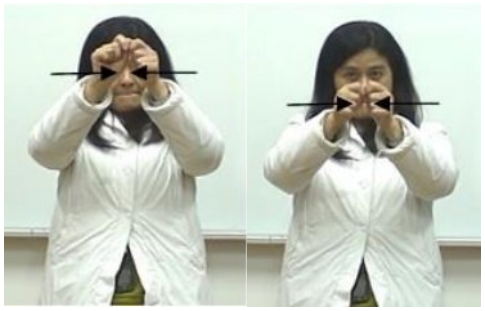
Besides, directing the handshape /Bent L/ toward the location in the signing space signifies that the second argument ‘grandfather’ has been projected onto the signing space. In that case, the projected body classifier represents the patient ‘grandfather’. Notice that the noun GLASSES precedes the projected verb form of PUT ON GLASSES in order to point out the location of the verb phrase (figure 3.8d) because the verb phrase in the projected form does not specify the location of the action (figure 3.8e).

Next in example (12), the first argument of the verb ‘help’ changes from first person ‘I’ to second person ‘you’ with the same syntactic form.

(12) I HELPED YOU BUTTON BUTTON.THE.CLOTHES$_{projected}$.

‘I helped you button the clothes.’

a. I b. HELPED c. YOU d. BUTTON



e. BUTTON.THE.CLOTHES$_{projected}$

Figure 3.9

This sentence is another illustration of the same point. To express BUTTON

THE CLOTHES in the projected form, the hands close with the thumbs pressing on the index fingers, palm out, moving closer to each other in the signing space (figure 3.9e). This handshape corresponds to the manipulation of a button. Zooming out to see the whole picture, it is observed that the agent role is represented by the use of the body classifier. Then, how about the expression of the patient's affected body part? The patient is represented by the projected body classifier and its affected body part can be seen from the location of the noun BUTTON, as shown in figure 3.9d.

Similar examples are abundant. Another example occurs in (13) and the arguments of 'help' are in third person.

(13) HE HELPED BROTHER TROUSERS PUT.ON.TROUSERS$_{projected}$.

'He helped his brother put on his trousers.'

a. HE b. HELPED c. BROTHER d. TROUSERS

e. PUT.ON.TROUSERS$_{projected}$

Figure 3.10

The first argument 'he' performs the action 'help', assisting the second argument 'brother' with the action 'put on trousers'.

When signing the verb phrase PUT ON TROUSERS in the projected form, the signer stretches her arms to the signing space with the handling classifier representing the holding of the band of the trousers. The hands move from a lower position to a higher position, depicting the action 'put on the trousers', like figure 3.10e shows. In figure 3.10e, the signer's whole body corresponds to the agent role 'he', so the use of the body classifier can depict the agent's action.

The second argument 'brother' is a projected body classifier in the signing space. Note that the noun TROUSERS is signed before the verb phrase (figure 3.10d) since the non-projected form does not occur to point out the location of the verb phrase.

One exception should be made to what has been said about the verb phrase in the projected form. The second argument of verb 'help' should be in non-first-person; otherwise it results in ungrammatical sentences. Here are two examples to illustrate the point.

(14) *HE HELPED$_{\rightarrow self}$ ME TROUSERS PUT.ON.TROUSERS$_{projected}$.

(15) *YOU HELPED$_{\rightarrow self}$ ME CLOTHES ZIP.UP.CLOTHES$_{projected}$.

Examples like (14) and (15) are ungrammatical. For one thing, note that Kegl (2003) has stated that the use of signer's body can represent first person, second person, or third person pronouns but the projected body pronoun can only represent non-first-person pronouns. What is more, signer's body corresponds to first person pronoun more than non-first-person pronouns. One final point is that the use of the projected form is to project the patient role onto the signing space, making the agent role more explicit in an action. On the contrast, the use of the non-projected form illustrates that the patient role is represented by the signer's body, making the patient role explicit in an action.

Therefore, the occurrence of the projected form means that the signer is using his/her body to represent the agent role, like ‘he’ in (14) and ‘you’ in (15); however, the patient role is manifest in the projected body classifier in the signing space. The patient roles in examples (14) and (15) are first person pronoun ‘me’, so using the projected form contradicts to Kegl’s (2003) rule— the projected body pronoun can only represent non-first-person pronouns. For the reasons given above, it is the non-projected form that should be used in examples (14) and (15).

The projected form can occur only if the second argument is in second or third person. Generally, the projected form is accompanied by the non-projected form. In the next section, we exclude the sentences in which the second argument of ‘help’ is the first person ‘me’. For the present, we shall confine our attention to the forms of the verb phrase in the transitive events with the verb ‘help’.

3.4 The occurrence of the non-projected form and the projected form

It is common to see the non-projected form and the projected form occur together in a paired construction. Hence, the order is that the projected form precedes the non-projected form and the reverse is true.

3.4.1 Projected form precedes non-projected form

In this section, we discuss the verbs occur in a paired construction with some TSL examples. The paired construction is composed of the projected body classifier and the non-projected body classifier, the former precedes the latter. The paired structure is identical to AB verb constructions in British Sign Language (Morgan and Woll 2003). Generally speaking, the use of such verb form aims to divide the agent from the patient in an event and gives clear information of each other. Now, we start from the first example.

(16) I HELPED BROTHER BUTTON BUTTON.THE.CLOTHES$_{projected}$ BUTTON.THE.CLOTHES$_{non\text{-}projected}$.

'I helped my brother button his clothes.'

a. I

b. HELPED

c. BROTHER

d. BUTTON

e. BUTTON.THE.CLOTHES$_{projected}$ f. BUTTON.THE.CLOTHES$_{non\text{-}projected}$

Figure 3.11

When expressing the concept that shows the event 'I helped my brother button his clothes', the concept of the verb phrase 'button the clothes' is expressed through a paired construction with the projected form followed by the non-projected form (figures 3.11e and 3.11f). This structure is also known as AB verb construction in British Sign Language (Morgan and Woll 2003).

In the projected form, BUTTON THE CLOTHES is signed with both hands moving in the signing space. The index fingers of both hands are opposed to the thumbs while the rest of the fingers are closed (handshape /Bent-baby O/), and the hands horizontally move closer to touch each other in front of the body. The movement repeats three times in various locations, from the highest location to the lowest one, as the black arrows show in figure 3.11e. Therefore, the agent role is represented by the signer's body classifier while the patient has been projected onto the signing space and manifest in the projected body classifier.

In the non-projected form, the verb phrase BUTTON THE CLOTHES is signed on the signer's front torso with the handshape /Bent-baby O/. The signer's body part corresponds to the patient's affected body part, so the patient role is represented by the non-projected body classifier, as shown in figure 3.11f.

Although the noun BUTTON is signed before the verb phrase 'button the clothes' (figures 3.11d - 3.11f), it can be omitted since the non-projected form can specify the specific location of the verb phrase.

The verb phrase WASH FACE is given in the next example with the same structure and arguments.

(17) I HELPED BROTHER FACE WASH.FACE$_{projected}$

WASH.FACE$_{non\text{-}projected}$.

'I helped my brother wash his face.'

a. I

b. HELPED

c. BROTHER

d. FACE

e. WASH.FACE$_{projected}$

f. WASH.FACE$_{non\text{-}projected}$

Figure 3.12

The projected verb form of WASH FACE is signed with one hand moving in the signing space. All fingers are extended (handshape /Open B/), sideward, moving in a circle in the signing space (figure 3.12e). Focusing on the hand part, its movement demonstrates the agent's action 'wash face'. Let us now attempt to extend the observation into the signer's entire body. In this fashion, the agent role, the first argument is represented through the body classifier. As for the patient, it is represented by the projected body classifier in the signing space.

In the non-projected form of WASH FACE, the verb is signed on the signer's face with handshape /Open B/ moving in a circle, as shown in figure 3.12f. The signer's face represents the patient's affected body part while the hand depicts the

agent's action. The patient role is manifested through the non-projected body classifier.

In the last two examples of this section, the arguments are changed to third person. Still, we focus on the verb structure in the verbal complement of the verb 'help'.

(18) FATHER HELPED CHILD ZIP.UP.CLOTHES$_{projected}$
ZIP.UP.CLOTHES$_{non\text{-}projected}$.
'The father helped the child zip up his clothes.'

a. FATHER b. HELPED c. CHILD

d. ZIP.UP.CLOTHES$_{projected}$ e. ZIP.UP.CLOTHES$_{non\text{-}projected}$

Figure 3.13

In this TSL sentence, the concept of the verb phrase 'zip up clothes' is expressed through a paired construction, with a verb signing on the projected body classifier in the signing space (figure 3.13d) followed by the other same verb signing on the non-projected body classifier (figure 3.13e).

In signing ZIP UP CLOTHS with projected form, the thumbs and the index

fingers of both hands are bent and opposed while the rest of the fingers are closed (handshape /Bent-baby O/). The handshape /Bent-baby O/ locates in the signing space next to each other with the fingertips facing out, and then one hand moves upward whereas the other one holds in the position (figure 3.13d). In this verb, handling classifier is used to depict the agent's action of zipping up the clothes. Zooming out to view the whole picture, the signer's physical action corresponds to the agent's action. Hence, the first argument 'father' is represented by the signer's body. In that case, the patient role 'child' has been associated with the location in the signing space. Hence, it is the projected body classifier that represents the second argument 'child'.

In the non-projected form, ZIP UP CLOTHES is signed at the body with handshape /Bent-baby O/. The hands move up along the front torso, as shown in figure 3.13e. The location of the verb corresponds to the specific body part of the patient role 'child'. In this fashion, the patient is represented by the non-projected body classifier while the agent is depicted by the hands. The second argument 'child' is therefore emphasized by the non-projected body classifier.

The noun 'clothes' is omitted because the verb in the non-projected form points out the specific location of the body and illustrates the meaning. The next instance serves as evidence of this point.

(19) HE HELPED WOMAN PUT.ON.MAKEUP$_{projected}$
PUT.ON.MAKEUP$_{non\text{-}projected}$.
'He helped the woman put on makeup.'

a. HE b. HELPED c. WOMAN

d. PUT.ON.MAKEUP$_{projected}$ e. PUT.ON.MAKEUP$_{non\text{-}projected}$

Figure 3.14

The verb phrase is PUT ON MAKEUP within this syntactic structure. The action 'help' is done at the patient 'woman' by the agent 'he'. The concept of the verb phrase 'put on makeup' is expressed by the use of the projected form (figure 3.14d) and the non-projected form (figure 3.14e).

To sign PUT ON MAKEUP in the projected form, the fingers of both hands all extended (handshape /Open B/). One of the palm of handshape /Open B/ first taps on the other palm and then moves up, faces out, doing the action of tapping in front of the signer's face in the signing space (figure 3.14d). In this projected form, the signer's hands are depicting the agent's action. Besides, the signer's whole body corresponds to the agent role. At the same time, PUT ON MAKEUP is signed on a

projected body classifier in the space opposed to the signer. The projected body classifier therefore corresponds to the patient role 'woman'.

In the non-projected form, PUT ON MAKEUP is signed at the signer's face with handshape /Open B/. The palm of the handshape /Open B/ first taps on the other palm and then moves up to tap at the signer's face, as shown in figure 3.14e. The location of the verb corresponds to the affected body part of the patient role. At the same time, the hands depict the agent's action. Therefore, the second argument 'woman' is represented by the non-projected body classifier.

3.4.2 Non-projected form precedes projected form

This section shows that the adjacent verbs can occur in reverse order, that is to say, the non-projected form is precedent to the projected form. We may recall that the non-projected form manifests the patient role with the signer's body whereas the projected form manifests the patient role with a specific location in the signing space. In the use of projected form, the signer's body can depict the agent's action. It will be useful to keep the points in mind as we examine the following examples.

(20) I HELPED SISTER $\text{WASH.HAIR}_{\text{non-projected}}$ $\text{WASH.HAIR}_{\text{projected}}$.

'I helped my sister wash her hair.'

a. I

b. HELPED

c. SISTER

d. WASH.HAIR$_{\text{non-projected}}$

e. WASH.HAIR$_{\text{projected}}$

Figure 3.15

The argument ‘I’ carries out the action ‘help’, assisting ‘sister’ with the action ‘wash hair’. In this TSL sentence, the concept of the verb phrase WASH HAIR is expressed by the non-projected form immediately followed by the projected form.

The verb phrase WASH HAIR is signed at the signer’s head with all the fingers extended (handshape /5/) and the hands move back and forth above the head, doing the action of ‘wash hair’ (figure 3.15d). In this non-projected form, the verb incorporates into the signer’s head which corresponds to the patient’s head. The hands moving back and forth depict the agent’s action; the body part handled by the hands represents the patient’s affected body part. In other words, the agent ‘I’ is depicted by the hands while the patient ‘sister’ is represented by the non-projected body classifier.

The use of the projected form makes the patient occur in the projected body classifier, so the signer’s body can correspond to the agent’s body, depicting the agent’s action by using the body classifier. Therefore in the projected form, the verb phrase WASH HAIR is signed with the same handshape and the same movement in the signing space rather than on the body, as illustrated in figure 3.15e. The first argument ‘I’ is therefore represented by the signer’s whole body. The second argument ‘sister’ is associated with the location in the signing space and manifest in the projected body classifier.

In this TSL sentence, the noun ‘head’ or ‘hair’ which signifies the body part in

relation to the verb phrase WASH HAIR does not occur. Since the specific body part has been signified by the non-projected verb form, it is not necessary to point out the body part by signing the noun before the verb phrase.

(21) HE HELPED BROTHER PUT.ON.TROUSERS$_{\text{non-projected}}$

PUT.ON.TROUSERS$_{\text{projected}}$

'He helped his brother put on his trousers.'

a. HE b. HELPED c. BROTHER

d. PUT.ON.TROUSERS$_{\text{non-projected}}$ e. PUT.ON.TROUSERS$_{\text{projected}}$

Figure 3.16

In the non-projected form, the verb phrase PUT ON TROUSERS is signed at the signer's thighs and waist. The fists represent the holding of the band of the trousers, moving up from both sides of thighs to the waist position, demonstrating the action of putting on trousers, as shown in figure 3.16d. The hands describe the agent's action, and at the same time, the signer's lower body which is handled by the hands

represents the patient's legs. In short, the hands manifest the agent role 'he' while the non-projected body classifier manifests the patient role 'brother'. This non-projected form focuses on the manifestation of the second argument 'brother'.

In the projected form, the signer stretches her arms to the signing space and then moves the fists from a lower position to a higher position to describe the action 'put on trousers' (figure 3.16e). Within the manipulation, the handling classifier depicts the agent's action. More noteworthy is the signer's entire body. The signer uses the body to demonstrate the agent's action. The patient therefore has been projected onto the signing space and is manifest in the projected body classifier. In the projected form, the signer's body is used to describe the agent 'he'.

When the verb phrase 'put on makeup' occurs in such syntactic structure, it can occur in a paired construction in which the non-projected form is followed by the projected form. This is shown in the following sentences.

(22) I HELPED YOU PUT.ON.MAKEUP$_{\text{non-projected}}$ PUT.ON.MAKEUP$_{\text{projected}}$.

'I helped you put on makeup.'

a. I

b. HELPED

c. YOU

d. PUT.ON.MAKEUP$_{\text{non-projected}}$

e. PUT.ON.MAKEUP$_{\text{projected}}$

Figure 3.17

(23) HE HELPED$_{\rightarrow \text{WOMAN}}$ PUT.ON.MAKEUP$_{\text{non-projected}}$ PUT.ON.MAKEUP$_{\text{projected}}$

'He helped the woman put on makeup.'

a. HE

b. HELPED$_{\rightarrow \text{WOMAN}}$

c. PUT.ON.MAKEUP$_{\text{non-projected}}$

d. PUT.ON.MAKEUP$_{projected}$

Figure 3.18

The verb form of the verb phrase PUT ON MAKEUP in sentences (22) and (23) can be illustrated in figures 3.17d - 3.17e and figures 3.18c - 3.18d.

In figures 3.17d and 3.18c, the verb phrase PUT ON MAKEUP in the non-projected form illustrates the manifestations of the second arguments 'you' and 'woman' of the main verb 'help'. In the non-projected form, the signer's face handled by the hands is associated with the location where the action is done. The action is done at the patient's face. Hence, there is a correspondence between the signer's face and the patient's face. The patient is represented by the non-projected body classifier. The hands depict the agent's action.

However in figures 3.17e and 3.18d, the projected form makes the signer's body the manifestation of the first argument. In the projected form, the action PUT ON MAKEUP is done at a specific location in the signing space which specifies the second argument. Hence, the patient is represented by the projected body classifier, but the agent's action can be depicted by the signer's whole body. We are now able to see that the use of the projected form makes the first argument more explicit.

So far, we have discussed the verb structure of the verb phrases with arguments in singular form. Given that the relevance between the projected verb form and the first argument, we can explain how to structure the sentences when the arguments are plural. The following three examples will suffice to show the relation between the

plural arguments and the verb forms.

(24) I/ YOU/ HE_a HELPED $THEM_{i,j,k}$ HAIR $WASH.HAIR_{projected\ a\rightarrow i}$ $WASH.HAIR_{projected\ a\rightarrow j}$ $WASH.HAIR_{projected\ a\rightarrow k}$.

'I/ You/ He helped them wash their hair.'

(25) WE/ YOU/ $THEY_{a,b,c}$ HELPED HER_i HAIR $WASH.HAIR_{projected\ a\rightarrow i}$ $WASH.HAIR_{projected\ b\rightarrow i}$ $WASH.HAIR_{projected\ c\rightarrow i}$.

'We/ You/ They helped her wash the hair.'

(26) YOU/ HE HELPED $US_{i,j,k}$ $WASH.HAIR_{non\text{-}projected\ i}$ $WASH.HAIR_{non\text{-}projected\ j}$ $WASH.HAIR_{non\text{-}projected\ k}$.

'You/ He helped us wash our hair.'

We can see that the second argument is plural in example (24) and the first argument is plural in (25). In order to convey the concept of plurality, the projected form is used in the transitive event with the verb 'help'. But it is a little bit different in the use of the projected form between (24) and (25). In (24), the projected verb directs to various locations 'i', 'j', and 'k' in the signing space to denote different patient roles respectively; however in (25), the projected forms direct to the only location 'i' which represents the singular patient role; at the same time, the signer's body shifts to location 'a' 'b' and 'c' to signify different agent roles.

In (26), the second argument is in first person plural, so the non-projected form is used. The non-projected form is reduplicated with the signer's body shifts to different locations 'i', 'j', and 'k' to refer to the plural arguments independently.

A close look at the sentence structure with the projected form will reveal that the depiction of the agent's action is the main focus. In the next chapter, let us look deeper into agentivity that illustrates the point that we have been considering.

3.4.3 Summary

The projected form is usually accompanied by the non-projected form, and whether it precedes or follows the other one will bring home the idea that the agent has been focused in an event. In the projected form, the signer's whole body action depicts the agent's action. In this fashion, the second argument is viewed as a projected body classifier in the signing space, being affected by the action. Hence, it is the projected body classifier that manifests the patient. Viewed in this light, the projected form can be regarded as one of the features of agentivity.

3.5 Concluding remarks

In expressing the concept 'someone helped someone else do something' in TSL, we can see the interaction between the first argument 'someone' and the second argument 'someone else' by examining the forms of the verbal complement 'do something'.

The verb phrases we have discussed include PUT ON EARRINGS, ZIP UP CLOTHES, PUT ON GLASSES, PUT ON TROUSERS, BUTTON THE BUTTON, WASH FACE, PUT ON MAKEUP, and WASH HAIR. They are all body-anchored verbs, but they can occur in four forms when being in the syntactic structure with the main verb 'help'. The four types are the non-projected form, the projected form, the projected form followed by the non-projected form, the non-projected form followed by the projected form.

The non-projected form refers to the verb which is signed on the signer's body just like its citation form. It is the most unmarked form and it can occur in the verb phrase in spite of the person of the arguments. Since the verb phrase occurs in the syntactic structure with the main verb 'help', it is not interpreted as reflexive anymore. Within the verb phrase, the agent role is represented by the hands while the patient

role is by the static body, namely, the non-projected body classifier in our analysis. The second argument of the verb ‘help’ is explicit in the non-projected form.

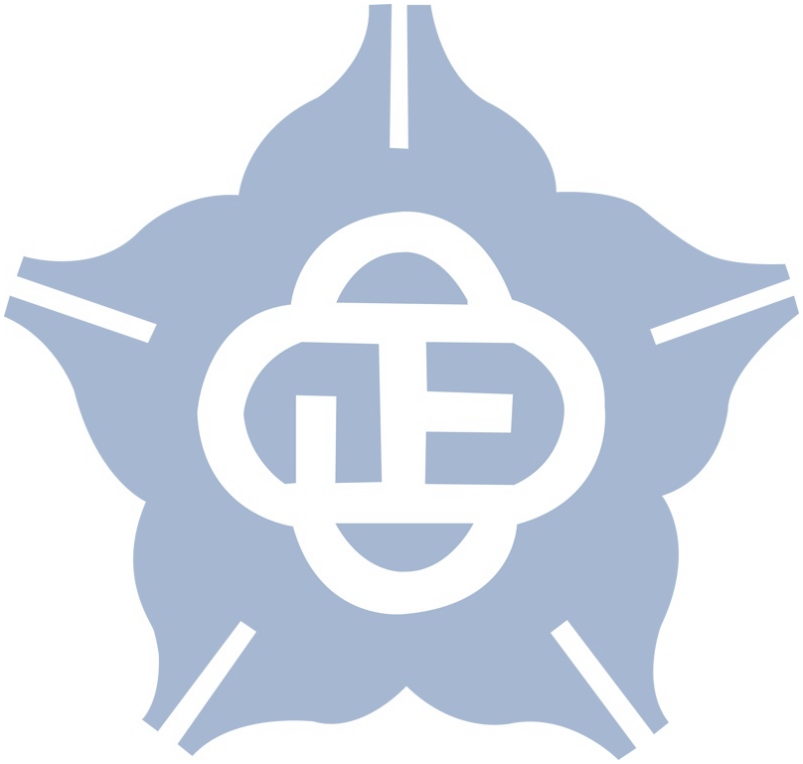
In the projected form, the verb is not signed on the signer’s body but at a specific location in the signing space. In this situation, the signer can depict the agent’s action by the use of his/her own body. By doing so, the agent’s action can be depicted more precisely. Meanwhile, the second argument of the verb has been viewed as a projected body classifier in the signing space, so the action can be done at the projected body classifier. Note that the projected form does not occur when the second argument is in first person since the first person argument is always represented by the signer’s body. We may note, in passing, that the noun which is related to the verb phrase should be pointed out in advance, like CLOTHES before the projected form ZIP UP CLOTHES. Since the projected verb form does not locate at an explicit body part, it needs a relevant noun to point out its specific location. All in all, the agent role and the patient role are separated when signing the verbs in the projected form. More importantly, the first argument of the verb ‘help’ is made explicit by using the projected form.

In addition, the verbs can occur in a paired construction, one in the projected form and the other in the non-projected form. The projected form can precede or follow the non-projected form.

One of the interesting situations is that the projected form is reduplicated to direct to various locations when the second argument is in plural form like ‘them’. The other situation is that when the first argument is plural, the projected form is reduplicated and directed to the same location in the signing space with the signer’s body shifting to different locations. However, if the second argument is first person plural, the reduplication occurs in the non-projected form.

What I have tried to show in this chapter is that using the projected form aims to

depict the agent's action, making the first argument of the verb 'help' explicit. Because the patient role is represented by the projected body classifier in the signing space, the agent's action can be described by the signer's own body. Hence, one can safely say that the occurrence of the projected form entails agentivity.



CHAPTER 4
THE FUNCTIONS OF BODY CLASSIFIERS IN TSL

4.1 Introduction

Cruse (1973) has pointed out the agentive manners such as ‘powerfully’, ‘vigorously’ and ‘energetically’ are highly satisfactory for the sentences containing the physical action. The examples are illustrated below.

(1) a. ?John vigorously looked at Mary (Cruse 1973).

b. John vigorously ran to the park.

It is less satisfactory since the verb ‘look’ lacks the semantic element of physical action in (1a), but the verb ‘run’ is much more satisfactory for (1b) because it contains the semantic element of physical action. Besides, Chung and Timberlake (1985) have claimed that some manner adverbs like ‘assiduously’, ‘deliberately’, ‘intentionally’, and ‘laboriously’ can express agency. So far, the examples we have discussed contain the verb with the semantic element of physical action, so in this chapter we add agentive manner to make agentivity more prominent in order to observe how the body classifier functions to manifest the agent role.

The rest of this chapter is organized as follows: section 4.2 detects whether agentivity stimulates the occurrence of the projected form and how the verb forms represent the extra information of the arguments, such as manner and emotion. In section 4.3, both arguments of ‘help’ are given extra information, and in this fashion we can observe how TSL distinguishes two arguments by using the projected form and the non-projected form.

4.2 The prominence of the arguments

4.2.1 Making the first argument prominent

It has been mentioned in chapter three that the projected form manifests the representation of the second argument in the signing space, making the patient role implicit but the agent role explicit. Now in this section, we focus on the first argument by using agentive adverbial to modify agent's action and adding extra information on the agent. By doing this we can detect whether the projected form occurs in the sentences.

In TSL, Liu (2005) has discussed the agentive adverbials such as 'carefully', 'with an effort' and 'purposely' within eventuality types and has realized only activities and accomplishments can occur with agentive adverbials. Here in our analysis, we are going to see what verb forms occur with agentive modifiers. Let us examine the first sentence.

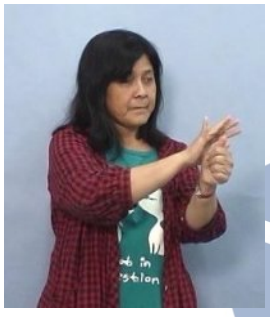
(2) MISS WANG CAREFULLY HELPED MISS LIN

ZIP.UP.CLOTHES$_{projected}$ ZIP.UP.CLOTHES$_{non\text{-}projected}$.

'Miss Wang carefully helped Miss Lin zip up the clothes.'

a. MISS WANG

b. CAREFULLY



c. HELPED

d. MISS LIN

e. ZIP.UP.CLOTHES$_{projected}$

f. ZIP.UP.CLOTHES$_{non\text{-}projected}$

Figure 4.1

The arguments of the verb 'help' are 'Miss Wang' and 'Miss Lin'. The adverb 'carefully' is added to modify the agent's action 'help', and it makes the verbal complement 'zip up clothes' occur in a paired construction. Actually, the non-projected form itself can express the sentence meaning, but here it follows the projected form. It seems that the projected form does not occur at random.

In the paired construction, the projected form precedes the non-projected form, like figures 4.1e and 4.1f show. In the projected form, the signer depicts the agent's action with her entire body, making the patient represented by the projected body classifier in the signing space (figure 4.1e). The non-projected form immediately follows the projected one in order to indicate the specific location of the patient's affected body part. Therefore the non-projected body classifier occurs, being the manifestation of the second argument 'Miss Lin' (figure 4.1f).

Agent's action together with its manner can be expressed more precisely and vividly in the use of the projected form in which the signer's body can correspond to the agent's body, depicting the agent's action with physical action. Hence, the manner of the action and the agent's emotion can be viewed from the signer's body movement and facial expression. Although agent role is shown by the hands in the non-projected form, it can hardly tell the whole picture of the agent since the fixed body and the facial expression delivers the information of the patient. The next sentence is another illustration of the same point.

(3) MONKEY CAREFULLY HELPED DOG GET.RID.OF.FLEA$_{projected}$ GET.RID.OF.FLEA$_{non\text{-}projected}$.

'The monkey carefully helped the dog get rid of the flea.'

a. MONKEY b. CAREFULLY c. HELPED d. DOG

e. GET.RID.OF.FLEA$_{projected}$ f. GET.RID.OF.FLEA$_{non\text{-}projected}$

Figure 4.2

The arguments of the main verb 'help' in this example are non-human animals 'monkey' and 'dog'. It is the first argument 'monkey' that initiates the action 'help' to assist the second argument 'dog'. The assistance is expressed through the verb phrase 'get rid of flea'. Besides, the adverb 'carefully' is added to modify the verb 'help', and this induces the projected form to occur.

The verb phrase occurs in a paired construction which is composed of the projected form and the non-projected one. Note that the sentence can still be interpreted only with the non-projected form, so it is not random for the projected form to occur. Due to the adding of the agentive adverb 'carefully', it describes the manner of the agent's action and then evokes the use of the projected form.

When signing ‘get rid of flea’ in the projected form, the index finger and the thumb are in contact while the rest of the fingers are closed (handshape /Baby O/); both hands with the handshape /Baby O/ stretch forward to the location opposed to the signer’s body in the signing space, and slightly draw inward with the connected fingers repeatedly open (figure 4.2e). This handshape /Baby O/ is the handling classifier which represents the pinching of some tiny objects, the flea. Therefore in the projected form, the signer’s action corresponds to the agent’s action in order to depict the manner ‘carefully’ which also can be portrayed by the use of facial expression.

The projected form is immediately followed by the non-projected form, shown in figure 4.2f. In the non-projected form, the palms of the handshape /Baby O/ face to the signer’s torso and slightly pull outward with the connected fingers open in repetition. The location of the verb is on the signer’s body which is associated with the patient’s affected body part. The hands depict the agent’s action. Although the manner of the action can be portrayed by the movement of the hand, it is hard to deliver other subtle messages by the way of incorporating the manner into the handling classifier. Therefore the projected form is obligatory.

In the next example, the adverb ‘annoyingly’ is added so that we can realize the necessity of the occurrence of the projected form. Before examining the syntactic form, let us first take a look at the adverb ‘annoyingly’ in TSL. In signing ANNOYINGLY, four fingers are bent (handshape /Bent B/), palm in, and pat the forehead repeatedly, as shown in figure 4.3.

Figure 4.3 ANNOYINGLY (Tsay et al. 2009)

(4) HE HELPED BROTHER WASH.HAIR$_{\text{non-projected}}$ WASH.HAIR$_{\text{projected}}$ WASH.HAIR$_{\text{projected}}$+ANNOYINGLY.

'He helped his brother wash hair annoyingly.'

a. HE b. HELPED c. BROTHER d. WASH.HAIR$_{\text{non-projected}}$

e. WASH.HAIR$_{\text{projected}}$ f. WASH.HAIR$_{\text{projected}}$+ANNOYINGLY

Figure 4.4

The main verb 'help' carries two arguments 'he' and 'brother'. The adverb 'annoyingly' is added and is reflected through the verb phrase 'wash hair'. The verb phrase occurs in a paired construction.

In the paired construction, the non-projected form precedes the projected form,

as shown in figures 4.4d and 4.4e. In this construction, the action first directs to the signer's head, producing the non-projected form, and it is followed by the other action directing toward a location opposed to the signer's body in the signing space, producing the projected form. The reason why the projected form should occur is that the adverb 'annoyingly' describes the agent's emotion, making the agent explicit.

In the projected form, the agent role and the patient role are separated. The signer's hands move away from the head, performing 'wash hair' on the projected body classifier in the signing space. The signer uses his whole body to depict the agent's action, but the projected body classifier in the signing space represents the patient role 'brother' (figure 4.4e). The modifier 'annoyingly' is signed within the projected form because one of the hands with handshape /Bent B/ moves to the signer's forehead to sign ANNOYINGLY, as shown in figure 4.4f. Since the use of the projected form aims to make the agent role explicit, signing the adverb simultaneously can specify the manner of the agent's action.

Let us now examine this example from a different angle, if the modifier is signed with the non-projected form, the interpretation of the sentence is quite ambiguous since it is hard to tell whether the modifier describes the agent's action or not. Therefore, signing the projected form is required. Besides, information of the agent can be delivered through the signer's whole body action as well as the facial expression.

During the data collection, we had some discussions with the informants. In some cases, a situation was given and described before entering the concept we provided, and instance (5) was one of the cases. The situation was briefly given that there was a child who got up late and almost missed the school bus, and his mother was worried and nervous when helping the child zip up his clothes. After giving the context, the informant was asked to describe the concept of the event with the verb

‘help’. Although the adverb was dropped in the sentence, the sentence was interpretable since the adverb had incorporated into the projected verb form. The informant later confirmed that the adverb was ‘nervously’. The example is illustrated as follows.

(5) MORNING SHE HELPED CHILD CLOTHES

ZIP.UP.CLOTHES$_{projected}$+NERVOUSLY.

‘In the morning, she helped her child zip up the clothes nervously.’

a. MORNING b. SHE c. HELPED d. CHILD

e. CLOTHES f. ZIP.UP.CLOTHES$_{projected}$+NERVOUSLY

Figure 4.5

In this example, the first argument ‘she’ carries out the action ‘help’ and assists the second argument ‘child’ with the action ‘zip up clothes’. The verb phrase ‘zip up clothes’ occurs in the projected form. Besides, the adverb ‘nervously’ combines with the projected form. Since the projected form is not accompanied by the non-projected form, the noun ‘clothes’ is pointed out to specify the location of the verb (figure 4.5e).

When signing the verb phrase in the projected form, the signer stretches his

arms with the handshape /Bent-baby O/ toward the location in front of his body, and moves one of the hands upward in a zigzag way, as illustrated in figure 4.5f. The handshape /Bent-baby O/ demonstrates the holding of the zipper by the agent. The zigzag movement represents the manner of manipulation. Using the projected form can depict the agent's action with the signer's entire body. Therefore, the manner 'nervously' can directly incorporate into the projected form, and it makes the handshape /Bent-baby O/ move in a zigzag way to represent the agent's body quiver caused by nervousness. In addition, the signer's facial expression becomes tense to describe the situation of the agent role precisely and vividly.

It was observed in this section that the projected form does occur when the first argument of verb 'help' is made prominent by the agentive adverbs; moreover, the adverbs can combine with the projected form to represent the manner of the action by the signer's whole body. In the next section, more messages like emotion or attitude are further given to the second argument of verb 'help'. Then, we examine whether the projected form occurs and how the verb form reflects the patient's reaction.

4.2.2 Making the second argument prominent

We have realized that in the 'help' event using the projected form signifies the importance of agentivity. Thus, in this section we reduce the agentivity of the event and concentrate on the patient role, the second argument, to see if the non-projected form takes the dominant position.

In example (6), the context was given that the sister was helped to put on the new earrings by me, and she was happy. After that, the signer expressed the concept of the event in TSL.

(6) I HELPED SISTER PUT.ON.EARRINGS$_{\text{non-projected}}$ NEW. SISTER HAPPY.

'I helped my sister put on the new earrings. My sister was happy.'

a. I b. HELPED c. SISTER

d. PUT.ON.EARRINGS$_{\text{non-projected}}$ e. NEW

f. SISTER g. HAPPY

Figure 4.6

This event is composed of two TSL sentences. In the first sentence, the arguments of the verb 'help' are 'I' and 'sister'. The verb phrase in the verbal complement is 'put on earrings'. The sign NEW is an adjective to modify the earrings. Later in the second sentence, the predicate 'happy' is used to depict the reaction of the argument 'sister'. Adding extra message to the second argument makes the patient

role the focus of the event, so the non-projected body classifier occurs to make the patient role explicit. Therefore, we observe that the verb phrase ‘put on earrings’ occurs in the non-projected form (figure 4.6d).

In figure 4.6d, the handshape /F/ is the handling classifier which represents the holding of a small object, the earrings; the inward movement of the hand corresponds to the agent’s action. The endpoint of the movement, the location of the verb, is at the earlobes which is associated with the patient’s affected body part. The patient is represented by the non-projected body classifier and the agent is by the hands. At the same time, other messages about the patient can combine with the non-projected form. Consequently, the signer can depict the patient role in detail by the use of nonmanual signals. One may notice that the signer has a smile in his face when signing PUT ON EARRINGS in the non-projected form.

As a matter of fact, the predicate which describes the situation of the second argument ‘sister’ can co-occur with the non-projected form instead of the projected form. The following examples can explain this point.

(7) HE HELPED BROTHER WASH.HAIR$_{\text{non-projected}}$. BROTHER WASH.HAIR$_{\text{non-projected}}$ WASH.HAIR$_{\text{non-projected}}$+ANNOYED.

‘He helped his brother wash hair. His brother was annoyed when being helped wash hair.’

a. HE b. HELPED c. BROTHER d. WASH.HAIR$_{\text{non-projected}}$

e. BROTHER

f. WASH.HAIR$_{\text{non-projected}}$

g. WASH.HAIR$_{\text{non-projected}}$ +ANNOYED

Figure 4.7

Two sentences are used to express this transitive event. In the first sentence, the main verb ‘help’ carries the arguments ‘he’ and ‘brother’. The first argument ‘he’ is the agent of the verb ‘help’ and the second argument ‘brother’ is the patient. The verb phrase ‘wash hair’ occurs in the non-projected form. In the non-projected form, the agent is represented by the hands and the patient the non-projected body classifier.

In the second sentence, it focuses on the information of the second argument ‘brother’. To deliver the emotion ‘annoyed’ of the brother, the predicate ANNOYED is signed on the signer’s forehead, and it also co-occurs with the non-projected form, as shown in figure 4.7g. The combination of the predicate ‘annoyed’ and the non-projected verb form illustrates the concept ‘the brother was annoyed when being helped wash hair.’ Since the patient is represented by the non-projected body classifier, the signer’s facial expression delivers the patient’s emotion. Hence, the frown on the signer’s face depicts the patient’s emotion specifically. Because in this event ‘annoyed’ is not the agentive adverb to modify the agent, the projected form does not occur.

Sometimes, it is possible to describe the information about the second argument without using a specific lexical item. That is to say, it can be expressed nonmanually. This point can be illustrated in example (8) which is a contrast to example (5) in

section 4.2.1.

(8) MORNING SHE HELPED CHILD CLOTHES

ZIP.UP.CLOTHES$_{\text{non-projected}}$.

CHILD ZIP.UP.CLOTHES$_{\text{non-projected}}$+NERVOUS.

'In the morning, she helped her child zip up clothes. The child was nervous when he was helped zip up the clothes.'

a. MORNING

b. SHE

c. HELPED

d. CHILD

e. CLOTHES

f. ZIP.UP.CLOTHES$_{\text{non-projected}}$

g. CHILD h. ZIP.UP.CLOTHES$_{\text{non-projected}}$+NERVOUS

Figure 4.8

There are two sentences in describing this event. In the first sentence, it is the argument ‘she’ that carries out the action ‘help’, assisting the argument ‘child’ with the action ‘zip up clothes’.

As for the second sentence, it concentrates on the depiction of the patient’s reaction. However, the predicate ‘nervous’ is not signed out but expressed through the non-projected body classifier. The semantic feature of ‘nervous’ incorporates into the non-projected form and is illustrated through the nonmanual signal as figure 4.8h shows. Within the combination of the predicate ‘nervous’ and the verb phrase in the non-projected form, the signer’s static body corresponds to the patient ‘child’ whereas the hands depict the agent ‘she’. Here in figure 4.8h, we notice the signer’s head slightly shakes with tense facial expression, and it is the manifestation of nervousness.

To sum up, if the patient role is the focus, it is represented by the non-projected body classifier. Other information about the patient will combine with the non-projected form. Therefore the nonmanual signal like the signer’s facial expressions can deliver messages of the patient in detail.

Since we have realized that the agentive modifiers combine with the signer’s body in the projected verb form and the information about the patient combine with the non-projected body classifier, we are now able to figure out why example (9) is ungrammatical.

(9) *HE HELPED BROTHER $\text{WASH.HAIR}_{\text{non-projected}}$.

BROTHER $\text{WASH.HAIR}_{\text{projected}}$ $\text{WASH.HAIR}_{\text{projected}}$+ANNOYED.

In this event, the second argument 'brother' is the patient who receives the agent's help. Under this circumstance, it goes further to depict the patient by the use of the predicate 'annoyed' in the second sentence. Here, notice that the verb phrase 'wash hair' occurs in the projected form and the predicate 'annoyed' combines with the signer's body in the projected form. In fact, the projected form should not occur and the predicate 'annoyed' should combine with the non-projected body classifier. I will develop the structure of body classifiers a little more fully in the section 4.3.

4.2.3 Summary

In the syntactic structure of the event 'help' in TSL, the verb phrase can occur in the projected form when agentive adverbials such as 'carefully', 'annoyingly' and 'nervously' are added to modify the agent's action. In that case, the signer's whole body is used to depict the agent's action. Besides, the agent's emotion is reflected in the signer's facial expression.

When extra messages are added to the second argument of the verb 'help', the patient role becomes the focus and is represented by the non-projected body classifier. It takes two sentences to describe the information about the second argument. The predicate of the second sentence can co-occur with the non-projected form so that the patient's extra information can be depicted by the signer's facial expressions.

4.3 Arguments with different messages in the same event

In the previous section, the first argument and the second argument are made prominent in respective situations. In this section, we add different messages to both arguments within the same event in order to make the distinction more clearly

between the agent and the patient. Let us now examine how TSL uses body classifiers to manifest the arguments and disambiguate the sentence meanings.

(10) I HAPPILY HELPED SISTER EARRINGS PUT.ON.EARRINGS$_{projected}$. SISTER PUT.ON.EARRINGS$_{non\text{-}projected}$+SAD.
'I happily helped my sister put on earrings. My sister was sad when being helped put on earrings.'

a. I b. HAPPILY c. HELPED d. SISTER

e. EARRINGS f. PUT.ON.EARRINGS$_{projected}$

g. SISTER h. PUT.ON.EARRINGS$_{non\text{-}projected}$+SAD

Figure 4.9

There are two sentences in this example. In the first sentence, the first argument performs the action ‘help’ and assist the second argument with the action ‘put on earrings’. Since the adverb ‘happily’ is added to modify the agent’s action, the verb phrase ‘put on earrings’ occurs in the projected form, as figure 4.9f shows.

In the projected form, the handshape /Open F/ becomes handshape /F/ as moving to the location in front of the body in the signing space. The movement corresponds to the action ‘put on’. Besides, the adverb ‘happily’ not only modifies the verb ‘help’ but also influences the verb phrase ‘put on earrings’. The semantic feature of ‘happily’ incorporates into the projected form and it is manifest in the signer’s facial expression—a happy look.

Then the second sentence focuses on the description of the patient’s reaction when being helped put on the earrings. The predicate in the second sentence is ‘sad’, which is signed with an open hand (handshape /5/) at the chest, palm up, closing the fingers (handshape /Flat O/) as it moves downward to the belly, and it combines with the verb phrase ‘put on earrings’ in the non-projected form, signifying ‘the sister was sad when being helped put on earrings,’ as illustrated in figure 4.9h. In addition, a sad look is made explicit in the signer’s face since the non-projected body classifier is used to portray the patient role ‘sister’. When the non-projected body classifier manifests the patient role, the agent role is represented only by the hands.

Next in example (11), the verb phrase ‘remove glasses’ is contrastive to the verb phrase ‘put on glasses’. In signing REMOVE GLASSES, the hands with the handshape /Bent L/ move away from the eye area as if removing the glasses.

(11) I CAREFULLY HELPED FATHER GLASSES REMOVE.GLASSES$_{projected}$.
SLEEP FATHER SLEEP REMOVE.GLASSES$_{non\text{-}projected}$ WAKE.UP.
'I carefully helped my father remove his glasses. My father was sleeping. He woke up when being helped remove the glasses.'

a. I

b. CAREFULLY

c. HELPED

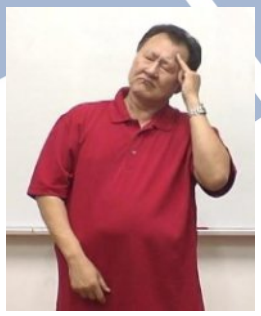
d. FATHER

e. GLASSES

f. REMOVE.GLASSES$_{projected}$

g. SLEPT

h. FATHER


i. SLEPT

j. REMOVE.GLASSES$_{\text{non-projected}}$+SLEPT

k. WOKE.UP

Figure 4.10

This example contains three sentences. The first sentence focuses on the depiction of the agent, namely, the first argument 'I' of the verb 'help'. The agentive adverb 'carefully' modifies the action 'help' and makes the verb phrase 'remove glasses' occur in the projected form (figure 4.10f). In the projected form, the signer's whole body action depicts the agent's action; at the same time, the patient is represented by the projected body classifier in the signing space. Therefore, the modifier 'carefully' can combine with the signer's body in the projected form which can illustrate the manner of the agent's action in nonmanual fashion.

The second TSL sentence provides the background information of the second argument 'father', pointing out the father was sleeping before he woke up. The last sentence describes the situation that the father woke up due to the action 'remove glasses'. Now we concentrate on the last sentence and analyze its structure.

The predicate 'woke up' entails the change of state of the father in the last sentence. So 'woke up' is the result caused by the action 'remove glasses'. That is to say, the father was sleeping when the action 'remove glasses' intervened. The action is done by the agent 'I' represented by the hands, but the patient is the father represented by the signer's non-projected body classifier. One of the hands signs SLEPT while the other hand signs the verb REMOVE GLASSES in the non-projected form which moves away from the signer's eye area with the handshape /Bent L/ (figure 4.10j).

The sign SLEPT co-occurs with the non-projected form in order to signify the father's state when the action 'remove glasses' occurs. Then the verb phrase REMOVE GLASSES is immediately followed by the sign WOKE UP which is signed with the handshape /Bent-baby O/ changing to the handshape /L/ at the eye area to refer to the father's awakening (figure 4.10k).

In this event, due to the arguments 'I' and 'father' respectively carry different information, it is necessary for the projected body classifier and the non-projected body classifier to occur so that the details of the arguments can be described independently. When the patient role is manifest in the projected body classifier, the agent's action is demonstrated precisely by the signer's whole body; when the patient role is manifest in the non-projected body classifier, the patient's reaction is described through the signer's static body.

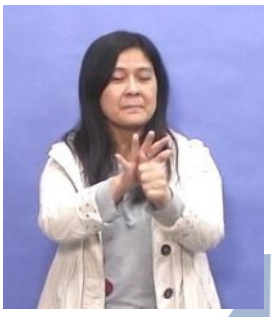
As we have mentioned, the agentive adverbs can sign with the projected form, or their semantic features can incorporate into the projected form, making the manner of the action manifest in the signer's whole body action as well as facial expressions. This is equivalent to saying that the manner of the agent's action or the patient's reaction can be expressed through the use of body classifier without signing lexical items. Besides, the occurrences of the projected form and the non-projected form are both important since they distinguish the interpretations between agent and patient. An example is given below to illustrate the point.

(12) I HELPED BROTHER WASH.HAIR$_{projected}$+LABORIOUSLY.

BROTHER WASH.HAIR$_{non\text{-}projected}$+COMFORTABLE.

'I helped my brother wash hair laboriously. My brother was comfortable when being helped wash hair'

a. I



b. HELPED

c. BROTHER

d. WASH.HAIR$_{projected}$+LABORIOUSLY

e. BROTHER

f. WASH.HAIR$_{non\text{-}projected}$+COMFORTABLE

Figure 4.11

Like the other examples we have discussed previously, the example contains two sentences, the first one describes the agent while the second one focuses on the patient.

In the first sentence, since the argument ‘I’ performs the action ‘help’ to assist the argument ‘brother’ with the action ‘wash hair’, ‘I’ is the agent of the verb ‘help’ and ‘brother’ is the patient. To illustrate the manner ‘laboriously’ of the agent’s action, the verb phrase ‘wash hair’ occurs in the projected form (figure 4.11d). Notice that the noun ‘hair’ related to the verb phrase does not occur here, but it is acceptable since the location of the verb phrase is pointed out from the non-projected form in the second sentence.

Turning now to the projected form in this sentence, the signer uses her whole body to manifest the agent’s action, so that we can realize the manner of the action from viewing the hand movement and the facial expression even without the lexical item of the modifier. In depicting the manner of the agent’s action, the signer frowns and grits her teeth as moving her hands swiftly with the handshape /5/ flexing repeatedly in the signing space, signifying the agent is doing the action ‘wash hair’ laboriously (figure 4.11d).

After describing the agent’s action and its manner, the signer focuses on the second argument ‘brother’ to describe his reaction (figures 4.11e and 4.11f). The predicate of the second sentence is ‘comfortable’ which co-occurs with the verb phrase ‘wash hair’ in the non-projected form, or to put it another way, the information of the patient’s reaction incorporates into the non-projected body classifier. Therefore, the signer slightly tilts the head and closes her eyes, making an enjoyable and comfortable look to illustrate the patient’s comfortable feeling; at the same time, the movement of the hands can represent the agent’s action (figure 4.11f).

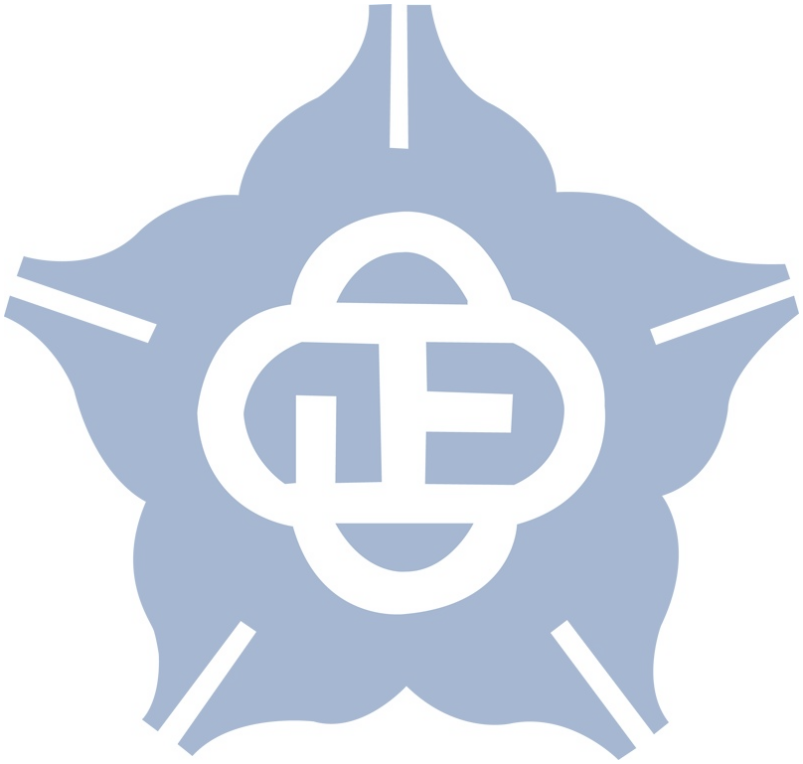
4.4 Concluding remarks

Let me summarize the main points that have been made in this chapter. We explore whether agentivity triggers the occurrence of the projected body classifiers and how the verb forms deliver the extra messages of the arguments. Some volitional adverbs are used to modify agents' actions in the examples. In sign languages, the manner of an action can be expressed through the movement and signer's facial expressions, so to manifest how an agent executes an action, the signer's whole body action as well as the facial expression all carry the information of the agent. When the agent has been modified by volitional adverbs which are highly concerned with agentivity such as happily, carefully, and laboriously, the agent is prominent in the event. Hence, it is obligatory for the signer to depict the agent's action by using the body classifier; however, the patient is represented by the projected body classifier in the signing space. As a result, agentivity evokes the use of projected body classifier.

To explain the relation between agentivity and the occurrence of the projected form, a comparison with the use of the non-projected form may be helpful. We also focus on the second argument to see how TSL expresses the patient's reaction. In that situation, two sentences are needed to describe one event. In the first sentence, it just gives the overview of an event like 'someone helped someone else do something'. In the second one, a predicate such a happy, sad, or annoyed is used to describe the patient's reaction. Besides, the predicate or its semantic feature can combine with the non-projected body classifier to illustrate the patient role, so it can be read from the signer's facial expressions to get the information about the emotions or feelings of the patient role; the agent role therefore is represented by the hands and is implicit.

Finally, we examine the arguments of verb 'help' carry different information in the same event. The contrast is manifest in the verb forms. To illustrate the manner of

the agent's action, the verb phrase occurs in the projected form; to demonstrate the patient's reaction, the verb phrase occurs in the non-projected form. In summary, as long as the agentivity has been evoked by agentive adverbials, the projected form does occur.



CHAPTER 5

CONCLUSION

The use of the body or body part in sign language has long been discussed in terms of events involving animate action. This linguistic phenomenon is given different names such as 'constructed action' (Winston 1991 1992; Metzger 1995; Liddell and Metzger 1998; Aarons and Morgan 2003; Quinto-Pozos 2007), and 'body classifier' (Supalla 1986; 1990; 2003). This thesis investigates the use of body classifier in TSL with the aim of discovering its forms and functions.

We have examined the previous descriptions of the use of the body in expressing events in sign languages. The signer's body can correspond to the referent's body in terms of the use of handling classifiers and body classifier. The use of these two classifier constructions entails that an agent is involved in the event. Besides, the roles of the body can be demonstrated by three verb types, i.e., plain verbs, agreement verbs and spatial verbs. Since agreement verbs are moving in syntactic space to specify the grammatical relations, it is important to set the location of the referent in the signing space opposed to the signer's body.

To see how signers express the events which involves two participants interacting with each other, two strategies have been used in describing the complex transitive events such as 'the girl combs the other girl's hair', 'the girl paints the boy's face', or 'the boy puts a hat on the snowman's head' (Morgan and Woll 2003). The strategies are 'AB verb constructions' (Morgan and Woll 2003) and 'sub-event' (Meir et al. 2008). In TSL, there are four forms in describing such transitive events, that is, the non-projected form, the projected form, the projected form precedes the non-projected form, the non-projected form precedes the projected form.

We have answered the question how TSL expresses the concept of the transitive event 'someone helped someone else do something' and why in some

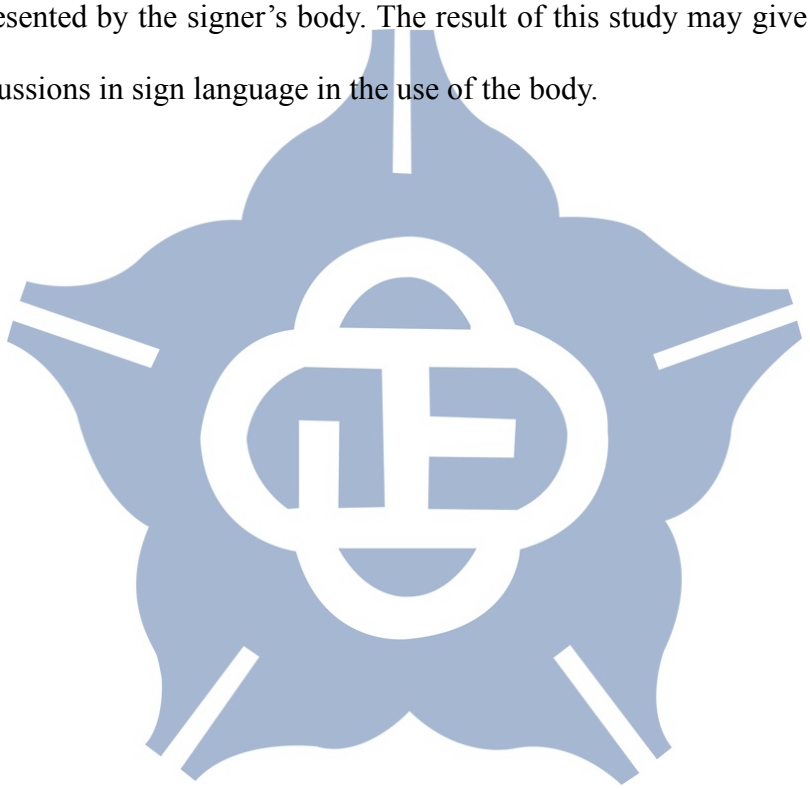
conditions the verb phrases of the verbal complement should occur in the projected form. The verb phrases in question are mainly concerned with the body-anchored verbs in our discussion, especially with the physical action. It has been exemplified that the verb phrases can occur in four forms—the non-projected, the projected, the projected precedes the non-projected, and the non-projected precedes the projected. The projected form is marked since its occurrence is restricted, and it makes the first argument of 'help' explicit while the second argument implicit. The occurrence of the projected form aims to emphasize the agentivity. In order to give further test of the relation between the projected verb form and agentivity, agentive adverbials such as CAREFULLY or LABORIOUSLY are used to modify the agent's action.

We also have been devoted to illustrating the way how TSL express the agent's action with manner in such transitive event. (e.g., CAREFULLY, HAPPILY, ANNOYINGLY, and LABORIOUSLY). The result has exhibited that TSL can denote these different manners through separate TSL lexical items. It can also reach the same purpose by speeding up or lowering down the movement of the verb and using facial expressions.

In addition, we not only modify the agent's action by adverbials but also focus on the patient's reaction, like their emotions and feelings. In this fashion, the distinctions can be made much more clearly. As a result, it has been realized that the projected body classifier occurs whenever the agent's action is modified by the agentive adverbials; however, it doesn't occur when the patient is the focus in an event. The facial expressions co-occurring with the verbs in the non-projected form also signify the emotions or feelings of the patient role. When the facial expressions co-occur with the projected verb form, they signify the manners of the agent's action .

This study has shown the forms and functions of body classifier in TSL and exhibited how TSL expresses the concept of the event 'someone helped someone else

do something'. According to Supalla (1986, 1990, 2003), the use of the body classifier can represent the animate referent, including the agent role and the patient role. In our analysis, we elaborate the body classifier into two types if it depicts the patient role in a transitive event. The body classifier can be divided into the non-projected body classifier and the projected body classifier. In the use of the projected body classifier, the patient role is projected onto the signing space, so the signer can use the body to represent the agent role. In the use of the non-projected body classifier, the patient role is represented by the signer's body. The result of this study may give deeper and further discussions in sign language in the use of the body.



REFERENCES

Aarons, D., and R. Morgan. 2003. Classifier predicates and the creation of multiple perspectives in South African Sign Language. *Sign Language Studies 3 (2)*: 125-56.

Baker, Charlotte, and Carol A. Padden. 1978. Focusing on the nonmanual components of American Sign Language. *Understanding Language through Sign Language*, ed. by Patricia Siple, 27-57. New York: Academic Press.

Battison, R. 1978. *Lexical Borrowing in American Sign Language*. Silver Spring, MD: Linstok Press.

Chen, Yi-jun. 2012. *Questioning in Taiwan Sign Language Conversation*. Ph.D. dissertation. National Chung Cheng University, Chia-Yi, Taiwan.

Cruse, D. A. 1973. Some thoughts on agentivity. *Journal of Linguistics* 9:11-23.

Chang, Jung-hsing. 2009. The relation of typological differences between Taiwan Sign Language and Chinese to language teaching of deaf students. *Bimonthly Journal of National Institute of Educational Resources and Research* 90: 53-76.

Chung, Sandra, and Alan Timberlake. 1985. Tense, aspect, and mood. *Language Typology and Syntactic Description*, ed. by Timothy Shopen, 202-258. New York: University of Cambridge.

Engberg-Pedersen, E. 1992. Point of view in Danish Sign Language. *Nordic Journal of Linguistics* 15: 201-11.

Falk, Yehuda N. 2006. *Subjects and Universal Grammar*. Cambridge: Cambridge University Press.

Fillmore, Charles J. 1968. The case for case. *Universals in Linguistic Theory*, ed. by Emmon Bach and Robert T. Harms, 1-88. New York: Holt, Rinehart and Winston.

Grimshaw, Jane. 1990. *Argument Structure*. Cambridge, MA: MIT Press.

Hung, Yu. 2012. *Negation in Naturally Occurring Taiwan Sign Language*. M.A. thesis. National Chung Cheng University, Chia-Yi, Taiwan.

Jackendoff, Ray. 1990. *Semantic Structures*. Cambridge, MA: MIT Press.

Johnson, R.E., and Scott. K. Liddell. 1987. A morphological analysis of subject-object agreement in American Sign Language. Paper presented at the Fourth International Conference on Sign Language Linguistics. Lapeenranta, Finland.

Kegl, Judy. 2003. Pronominalization in American Sign Language. *Sign Language & Linguistics* 6:2, 245-265.

Liddell, Scott K. 1980. *American Sign Language Syntax.* The Hague: Mouton.

Liddell, Scott K., and M. Metzger. 1998. Gesture in Sign Language Discourse. *Journal of Pragmatics* 30: 657-97.

Liu, Hsiao-mei. 2005. *The Semantics and Syntax of Eventuality Types in Taiwan Sign Language*. M.A. thesis. National Chung Cheng University, Chia-Yi, Taiwan.

McNeill, D. 1992. *Hand and Mind: What Gestures Reveal about Thought*. Chicago: University of Chicago Press.

Meir, Irit, Carol Padden, Mark Aronoff, and Wendy Sandler. 2008. Re-thinking sign language verb classes: The body as subject. *Sign Languages: Spinning and Unraveling the Past, Present and Future. TISLR9, forty five papers and three posters from the 9th Theoretical Issues in Sign Language Research Conference, Florianopolis, Brazil December 2006*, ed. by R. M. de Quadros, 365-387. Editora Arara Azul. Petrópolis/RJ. Brazil. http://www.editora-arara-azul.com.br/EstudosSurdos.php.

Meier, Richard P. 2002. Using space and describing space: Pronouns, classifiers, and verb agreement. *Modality and Structure in Signed and Spoken Languages*, ed. by Richard P. Meier, Kearsy Cormier, David Quinto-Pozos, 321-327. Cambridge: Cambridge University Press.

Meir, Irit, Carol A. Padden, Mark Aronoff, and Wendy Sandler. 2007. Body as Subject. *Journal of Linguistics* 43, 531-563.

Meir, Irit, and Wendy Sandler. 2008. Shapes, locations, and motion in space: Classifier constructions. *A Language in Space: The Story of Israeli Sign Language*. New York: Lawrence Erlbaum Associates.

Metzger, M. 1995. Constructed dialogue and constructed action in American Sign Language. In *Sociolinguistics in Deaf Communities*, ed. by C. Lucas, 255-71. Washington, D.C.: Gallaudet University Press.

Morgan, Gary and Bencie Woll. 2003. The development of reference switching encoded through body classifiers in British Sign Language. *Perspectives on Classifiers in Sign Language*, ed. by K. Emmorey, 297-310. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Padden, Carol A. 1988. *Interaction of Morphology and Syntax in American Sign Language*: *Outstanding Dissertations in Linguistics*, Series IV. New York: Garland Press.

Padden, Carol A. 1989. The relation between space and grammar in ASL verb morphology. *Sign Language Research: Theoretical Issues*, ed. by Ceil Lucus, 118-132. Washington DC: Gallaudet University Press.

Perniss, P. 2007. Achieving spatial coherence in German Sign Language narratives: The use of classifiers and perspectives. *Lingua* 117, 1315-1338.

Quinto-Pozos, David. 2007. Why does constructed action seem obligatory? An analysis of "classifiers" and the lack of articulator-referent correspondence. *Sign Language Studies* 7, 458-512.

Stokoe, William C. 1960. *Sign Language Structure. Studies in Linguistics*. Occasional Papers 8. Buffalo, NY: University of Buffalo Press.

Stokoe, William C., Dorothy C. Casterline, and Carl G. Croneberg. 1965. *A Dictionary of American Sign Language on Linguistics Principles*. Washinton, DC: Gallaudet University Press.

Su, Shiou-fen. 2011. *Modality Effects in Grammar and Discourse in Taiwan Sign Language*. Ph.D. dissertation. National Chung Cheng University, Chia-Yi, Taiwan.

Supalla, Ted. 1986. The classifier system in American Sign Language. *Typological Studies in Language*, *vol. 7*: *Noun Classes and Categorization*, ed. by Colette Craig, 181-204. Amsterdam: John Benjamins publishing company.

Supalla, Ted. 1990. Serial verbs of motion in ASL. *Theoretical Issues in Sign Language Research, vol. 1*: *Linguistics*, ed. by Susan D. Fischer and Patricia Siple, 127-152. Chicago: University of Chicago Press.

Supalla, Ted. 2003. Revisiting visual analogy in ASL classifier predicates. *Perspectives on Classifiers in Sign Language*, ed. by K. Emmorey, 249-257. Mahwah, New Jersey: Lawrence Erlbaum Associates.

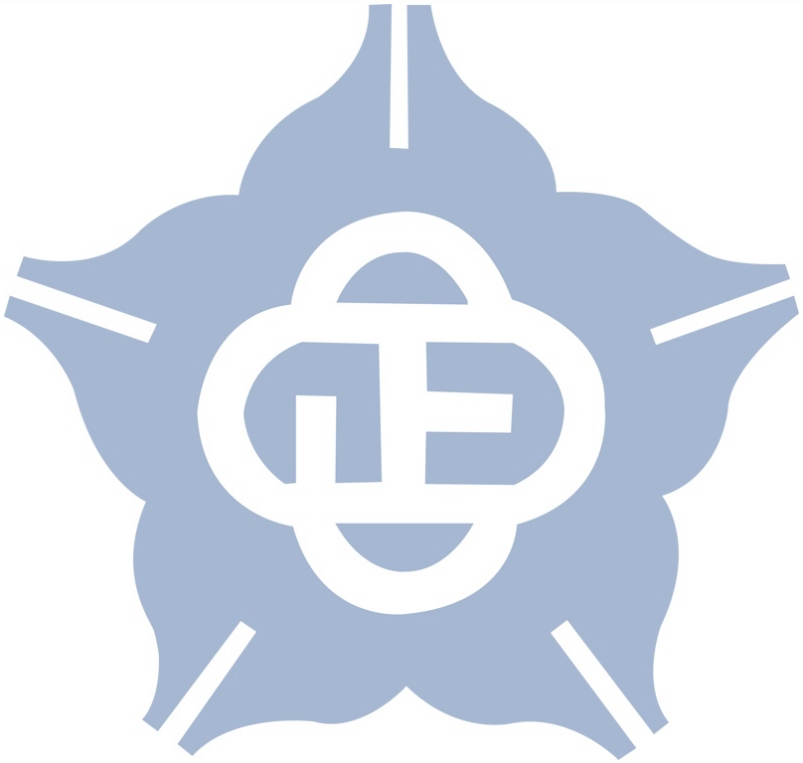
Sutton-Spence, Rachel, and Bencie Woll. 1999. *The Linguistics of British Sign Language: An Introduction*. Cambridge: Cambridge University Press.

Tai, James H.-Y. 2005. Modality Effects: Iconicity in Taiwan Sign Language. *POLA FOREVER: Festschrift in Honor of Professor William S-Y. Wang on his 70TH Birthday*. ed. by Dah-an Ho and Ovid J. L. Tzeng, 19-36. Institute of Linguistics, Academia Sinica. Taipei.

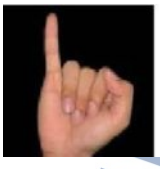
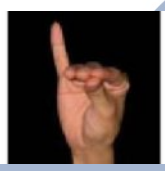
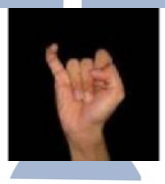
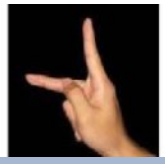
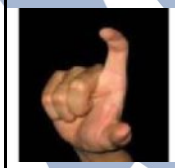
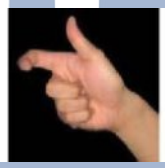
Tai, James H.-Y. and Jane Tsay. (in print). Taiwan Sign Language: History, Structure, and Adaptation. *Oxford Handbook of Chinese Linguistics*. Oxford University Press.

Taub, Sarah F. 2001. *Language From the Body: Iconicity and Metaphor in American Sign Language*. Cambridge: Cambridge University Press.

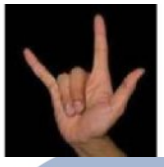
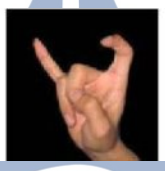
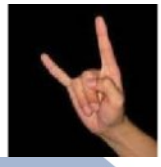
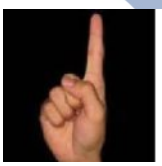
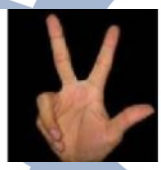
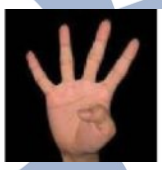
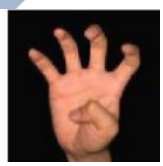
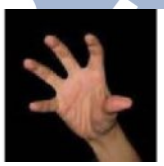
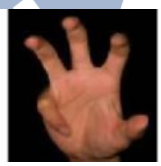
Tsay, Jane, James H.-Y. Tai, Hsin-Hsien Lee, Yijun Chen and Qiong-Yi Yu. 2009. *Taiwan Sign Language Online Dictionary.* 2nd Edition. Institute of Linguistics, National Chung Cheng University, Taiwan. http://tsl.ccu.edu.tw/web/browser.htm



Appendix: Handshapes in Taiwan Sign Language[1]

Open A (男 nan)	Flexed A (副 fu)	B (胡 hu)	Open B (手 shou)	Bent B (九 jiu)
C (方 fang)	Bent C (紳 shen)	F (錢 qian)	Open F (WC)	G (像 xiang)
 I (女 nyu)	 Flat I (千 qian)	 Curved I (蟲 chong)	 K (欠 qian)	Open K (布袋戲 budaixi)
L (六 liu)	 Bent L (句 ju)	 Curved L (爺 ye)	Curved-baby L (難 nan)	Flexed L (很 hen)
Extended N (鴨 ya)	O (零 ling)	Open O (果 guo)	Flat O (萬 wan)	Baby O (呂 lyu)

[1] The handshape names are from Tai and Tsay (in print).

Bent-baby O (雞 ji)	R (筆 bi)	S (拳 quan)	U (棕 zong)	V (二 er)
Curved V (二十 ershi)	W (三 san)	Curved W (三十 sanshi)	Unspread W (童 tong)	X (十 shi)
Y (民 min)	 L-I (守 shou)	 X-I (奶奶 nainai)	 1-I (語 yu)	Flat 1-I (龍 long)
 1 (一 yi)	 3 (七 qi)	Curved 3 (虎 hu)	 4 (四 si)	 Curved 4 (四十 sishi)
5 (五 wu)	 Bent 5 (同 tong)	5-Curved Pinky (八 ba)	 Curved 5-Pinky (八十 bashi)	Piled 5 (薑 jiang)
8 (借 jie)	Open 8 (菜 cai)	Crossed Thumb-Index (隻 zhi)	Thumb-Middle-Pinky (飛機 feiji)	Curved-Index (鵝 e)

Curved middle (博 bo)	Middle (兄 xiong)	Curved-Index-Middle (高 gao)	Ring (姐 jie)	Ring-Pinky (百 bai)