Semantic Map and HBV in English, Chinese and Korean—A Case Study of hand, 手 and 手*  

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Abstract—Semantic map is often used for semantic analysis in the research of grammatical forms and structures than lexical forms and meanings in linguistic typology. This paper, by means of Semantic Map Model, conducts the typological analysis of the lexical meanings of [+HAND] in English, Chinese and Korean, which typologically belong to three different types of languages, that is, English is inflectional, Chinese is isolating and Korean is agglutinative. From the conceptual space and the semantic map of hand, 手 and 手, we can find that their meanings are extended on the basis of their basic meanings of [+part of body], [+holding things] and [+doing things] from holding something with hands to controlling something or somebody with power, from a person who does something with hands to a person in general, from actions which are done with hands to actions in general, from skills done with hands to methods in general. The semantic map of [+HAND] also conveys the relationship and distance among the lexical meanings, and concludes and predicts the dynamic evolution of the lexical meanings.

Index Terms—semantic map model, conceptual space, lexical meanings, hand, 手 and 手; meaning extension path

I. INTRODUCTION

According to Nan (2012), the research of human body vocabulary (HBV) at home and abroad has experienced the change from macro to micro studies, and from static to dynamic studies. As one of the core HBV in English, Chinese and Korean, hand, 手 and 手 have been studied intra-lingually and inter-lingually from the semantic or pragmatic perspective in the early stage and then from the cultural and cognitive perspective in recent years. According to Zhong (2016), 22 books, dissertations or journal articles on the research of hand in English, Chinese, Japanese and Vietnamese have been published from 2010 to 2014. English hand has been mentioned or studied abroad only as examples in the books or articles on cognition or cognitive linguistics (Lakoff & Johnson, 1980; Lakoff, 1987; Johnson, 1987; Heine, 1997; Ungerer & Schmid, 2006). Some research of hand has been done in China and Korea intralingually (Xie, 1981; Xiao, 2000; Kim, 2005; Ahn, 2006), but more in a comparative way. Chinese 手 and its comparison with English hand have been studied in China from semantic perspective (Huang, 2010a; Huang, 2010b; Zhao, 2013), cognitive perspective (Gao, 2005; Si, 2008; Ma, 2010; Yin, 2014; Liu, 2015) and cultural perspective (Li, 2007; Wang, 2011). Korean HBV has been studied much earlier than that of English and Chinese (Nan, 2012). Korean 手 and its comparison with Chinese 手 or English hand have been studied by Korean scholars and Chinese scholars mainly on idioms from the morphological and lexical perspective (Kim, 1976; Jin, 1988; Lee, 1996; Kim, 2001), syntactic perspective (Park, 2000), semantic perspective (Young, 1983; Lee, 1999; Bae, 2001; Jin, 2006; Wang, 2012), cognitive perspective (Kim, 2007; Jo, 2007; Zheng, 2014; Yoon, 2015), cultural perspective (Zheng, 2007; Xu, 2009; Pan, 2014). There are a few typological researches of hand and 手 (Huang, 2012; Wei, 2013), but these are confined to one or two functions of hand and 手.

II. SEMANTIC MAP

Semantic map is the key word of Semantic Map Model which has been used widely for semantic analysis in linguistic typology and cognitive semantics to represent the distance and relationship among different meanings or functions of a linguistic form by building conceptual space. Conceptual space, which was explained as mental map by Anderson (1982), is used in this model to represent grammatical multifunctionality, which refers to the phenomenon that one linguistic form, grammatical, lexical or structural, has more than one different but related functions. The basic hypothesis of the model is that there exist some restrictions and limitations as well as some similarities among

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polysemous forms or multifunctional categories among different languages. Therefore, the purpose of the model is to find out and explain these similarities and differences through cross-linguistic comparison. Semantic map was first studied by Anderson (1982, 1986) and then has been used in linguistic typological research since 1990s. Semantic Map Model was illustrated in details by Haspelmath (1997b) and was furthered by Croft (2001, 2003) who connected semantic map and conceptual space (Wu, 2011). Semantic map and conceptual space are constructed under Semantic Map Connectivity Hypothesis (Croft, 2001, 2003) or Contiguity/Adjacency Requirement (Haspelmath, 1997a, 1997b, 2003) which holds that any relevant language-specific and/or construction-specific category should map onto a connected region in conceptual space (Croft, 2003, p.134).

According to Wu (2011), Semantic Map Model has been used mainly by the scholars abroad and used in the research of grammatical forms and structures, such as aspect (Anderson, 1982; Janda, 2007), reflexive and middle voice (Kemmer, 1993), intransitive predication (Stassen, 1997), indefinite pronouns (Haspelmath, 1997b), temporal adverbial (Haspelmath, 1997a), adverbial subordination (Kortmann, 1997), modality (van der Auwera & Plungian, 1998; de Hann, 2006; van der Auwera, et al., 2009), semantic role (Haspelmath, 2003; Rice & Kabata, 2007), mood (van der Auwera, et al., 2004), coordinating constructions (Haspelmath, 2004), adversative and contrast marking (Malchukov, 2004), etc. Only in recent years, Semantic Map Model has been introduced to China and used to analyse the polysemous grammatical forms of Chinese (Zhang, 2009) and its comparison with other Asian languages (Wu, 2009). The model is also used to analyse the numeral classifiers of Chinese and English (Wei, 2013), of Chinese and Korean (Lee, 2011), Chinese conjunctions (Wang, 2012; Li, 2013), Chinese speculative markers (Wang, 2012), Chinese dialects (Wu, 2011; Guo, 2012; Fan, 2014), etc. Wei (2013) discussed the function of Chinese and English HBV, including hand, as numeral classifiers on the basis of semantic map model. But Semantic Map Model is seldom used in researching lexical forms and meanings at home and abroad.

This paper will conduct the semantic analysis of polysemous lexical word hand, 手 and 손 in English, Chinese and Korean under Semantic Map Model in three steps: construct conceptual space, draw semantic map and analyse and explain. Typologically, English, Chinese and Korean belong to three different types of language. English is inflectional, Chinese is isolating and Korean is agglutinative. This conforms to the requirement of Semantic Map Model which insists the variety of languages in kinship and geo-relationship (Wu, 2009).

### III. SEMANTIC ANALYSIS OF HAND, 手 AND 손

#### A. Basic Meaning of [+HAND]

According to Oxford Advanced Learner’s English-Chinese Dictionary (2005) and Collins COBUILD Advanced Learner’s English-Chinese Dictionary (2011), Chinese Comprehensive Dictionary (2010) and Contemporary Chinese Dictionary (2012), Standard Korean Dictionary (1999) and Neungyule Korean-English Dictionary (2006), hand, 手 and 손 are defined as the part of the body at the end of the arm, including the fingers and thumb, that you use to hold things. They share the following semantic features:

[+]HAND (hand, 手 and 손): [+part of body] [+end of arm] [+holding things] [+doing things]

#### B. Extended Meanings of [+HAND]

The meaning of hand is extended as follow:

1. [+influence/role]: strengthen her hand in politics
2. [+own/looking after]: in safe hands, change hands
3. [+help]: give me a hand in the garden...
4. [+side/direction]: on one hand
5. [+source]: second-hand books
6. [+person doing or good at a certain job]: a hand of banana, the hands of clock, hand-breath
7. [+measurement for horse]: a winning hand
8. [+cards]: a winning hand
9. [+skill]: master’s hand, a green hand
10. [+something like/of the size of hand]: a hand of banana, the hands of clock, hand-breath

The meaning of 手 is extended as follow:

1. [+hold]: 人手一册 (every one has a copy)
2. [+control/power]: 在我手上. (in my hands)
3. [+method/trick]: 手辣 (malicious means)
4. [+person doing or good at a certain job]: 选手 (player), 助手 (assistant)
5. [+source]: 第一手材料 (first hand material)
6. [+skill]: 眼高手低 (high ambition but low ability)
7. [+handle]: 扳手 (spanner)
8. [+unit of measuring skills]: 一手绝活 (a master of one’s craft)
9. [+convenient]: 手册 (handbook)

The meaning of 手 is extended as follow:
1. [+control/power]: 그녀의 운명은 내 손에 달려 있다 (Her fate lies in my hands.).
2. [+influence/role]: 그의 손에 달린 일 (up to him)
3. [+own/looking after]: 손이 많이 가다 (need a lot of work)
4. [+help]: 손을 내밀다 (ask for help)
5. [+person]: 손이 모자라다 (be short of hands)
6. [+skill]: 그 사람 손이 가야한다 (Her skill is needed.)
7. [+method]: 백방으로 손을 쓰고 있다 (try all means)
8. [+handle]: 맷손 (handle of millstone)
9. [+unit of measuring]: 고등어 한 손 (a handful of fish)

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IV. SEMANTIC MAP OF HAND, 手 AND 手

A. Conceptual Space of [+HAND]

Conceptual space is the universal semantic space, built on the basis of cross-linguistic comparison, to describe multidimensional distribution patterns of language-specific categories (Croft, 2003). It is composed of points, which represent different functions or meanings of a certain grammatical form in different languages, and links, which represent the direct connection between two functions or meanings. It constrains possible distribution patterns for the relevant language-specific constructions and the categories defined by those constructions (Croft, 2003).

According to the semantic analysis and the meaning extension of hand, 手 and 手, we can build the following conceptual spaces. Different meanings are represented as labeled points in the conceptual space with each point representing a region of conceptual space.

First, hand, 手 and 手 all have the same five meanings. They are (1) organ of body, (2) control/power, (3) person, (4) skill and (5) measurement. They are linked and distributed in Conceptual space I.

Figure 1  Conceptual space for hand, 手 and 手 I

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Secondly, hand and 手 have three meanings in common: (6) influence/role, (7) own/look after and (8) help. They are linked with (2) control/power and distributed in Conceptual space II.

Thirdly, 手 and 手 have the meanings of (9) method and (10) handle. They are linked with (1) organ and (4) skill respectively and distributed in Conceptual space III.

Fourthly, hand and 手 have the meanings of (11) source. It is linked with (2) control/power and distributed in Conceptual space IV.

Fifthly, hand has the meaning of (12) something like/of size of hand and (13) side/direction, and 手 has the meaning of (14) hold and (15) convenient. They are all linked with (1) organ and distributed in Conceptual space V.

The conceptual space in Figure 5 conforms to the Semantic Map Connectivity hypothesis.

B. Semantic Map of [+HAND]
Figure 6 is the semantic map of [+HAND] drawn on the basis of the conceptual space in Figure 5. Different meanings of [+HAND] in each language of English, Chinese and Korean occupy a certain connected region in the figure. Therefore, the conceptual space in Figure 5 is universal.

The semantic map in figure 6 represents the similarities and differences among the meanings of hand, 手 and 手 in English, Chinese and Korean, which are stated in the process of constructing the conceptual space in Figure 1~5. It also conveys the relationship and distance among the meanings of hand, 手 and 手 respectively. The closer the distance is, the more direct relationship will be. For example, the meaning of person is positioned closer to the meaning of skill and organ, so it has direct relation with the two meanings, while it has indirect relation with the meaning of measurement since they are positioned far. We may also conclude and predict the dynamic evolution of the lexical meaning of the words. Take the case of hand for example. Its meaning of skill was extended before the meaning of method (skill > method) or the meaning of own came after the meaning of control (control > own). Therefore, we can predict that if [+HAND] in a certain language has the meaning of method, it must have the meaning of skill (e.g. Chinese, Korean, French, Japanese) but might not be vice versa (e.g. English), or if [+HAND] in a certain language has the meaning of own, it must have the meaning of control (e.g. English, Korean) but might not be vice versa (e.g. Chinese, French). More examples are control > source, control > influence, etc.

C. Meaning Extension Path of [+HAND]

From the conceptual space and the semantic map of [+HAND], we can find that the meanings of hand, 手 and 手 are extended on the basis of their basic meanings of [+part of body], [+holding things] and [+doing things] from holding something with hands to controlling something or somebody with power, from a person who does something with hands to a person in general, from actions which are done with hands to actions in general, from skills done with hands to methods in general. The directions of the meaning extension can be concluded as follows:

Shape of the hand enables hand to refer to something like the hand, e.g. a hand of bananas, or something of size or amount of the hand, e.g. a hand of sweets, 一秀 (show off), 고등어 한 손 (a handfull of fish), or something which functions as a hand of some devices, e.g. 机械手 (manipulator), 扳手 (handle of millstone), while the symmetry of two hands results in the expressions like on one hand, or on the other hand, where hand means side or direction.

The fact that hands can hold things makes hand refer to the action of holding, e.g. 人手一册 (every one has a copy). When someone is holding something, he controls it and then owns it, which empowers him and then influences others. If others needs it, they should get it from him, which accounts for the meaning of [+source] of hand.

People do many things with hands, therefore hand is used to refer to a person whose work is related to hands, then a person in general, such as a green hand, 生手 (an inexperienced hand), 손이 모자라다 (be short of hands). The work done with hands needs some skills which can be expressed by hand, such as show a master hand, 妙手丹青 (a skillful painter), 그 사마의 술이 가야한다 (Her skill is needed). This meaning is further extended to mean methods in 谋生手段 (means of living), 백방으로 손을 쓰고 있다 (try all means).

V. CONCLUSION
Semantic Map Model is used in this paper to carry out typological analysis of lexical forms and meanings of *hand*, 手 and て in three different types of languages, English, Chinese and Korean. According to the conceptual space and semantic map of *hand*, 手 and て, we can find that their meanings are extended on the basis of their basic meanings of [+part of body], [+holding things] and [+doing things] from specific to general, from concrete to abstract, form inanimate to animate. More specifically, from holding or grasping with hands to controlling or owing something or somebody with power or influence, from a worker who does something with hands to a professional person in general, from actions or performances which are done with hands to actions or behaviors in general, from special skills done with hands to methods or tricks in general. The relationship and distance among the lexical meanings is conveyed and the dynamic evolution of the lexical meaning is predicted by means of the semantic map.

REFERENCES


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