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Metaphor use in aphasia

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Chapter 6 Discussion and conclusion

6.1 Introduction

This dissertation aimed to probe into how metaphors are used in aphasia through an examination of metaphor use from two dimensions, language and thought. We designed and carried out three studies to understand how people with aphasia (PWA) use metaphors on the linguistic level, and how conceptual metaphors about aphasia are framed. The linguistic materials we analysed were not only utterances produced by PWA, but also descriptions and comments on aphasia, collected from online databases in AphasiaBank and an online forum on aphasia.

This final chapter serves as a conclusion. First, we will offer an overview of the research: in Chapter 1 and 2 we introduced aphasia, the theory of conceptual metaphor and explored metaphor use in language and thought; in Chapter 3 and 4, the study proper was outlined with linguistic materials selected from two databases in AphasiaBank that included data of two languages, one being data from English speakers and the other is Mandarin; in Chapter 4, we also attempted to apply the metaphor identification procedure MIPVU to Chinese; and in Chapter 5, the metaphorical framing in aphasia was scrutinized on four levels: image schema, domain, frame, and scenario. Next, there is a summary of the main findings from these studies. Then, we highlight implications of this research and our hope that findings from these studies can be used to advance understanding and compassion for PWA in speech therapy, clinician-client interaction, and even family or caregiver relations in aphasic settings of treatment and rehabilitation. Lastly, we will discuss limitations of this research, and raise some suggestions for future study.

6.2 Brief overview of the research

We began our research following the premise of conceptual metaphor theory (CMT) that there are two dimensions in metaphor study, language and thought. A linguistic metaphor is a lexical unit that is used to describe somebody/something else. The linguistic function of metaphor is “to fill lexical (and other formal) gaps in the language system” (Steen, 2008). As for metaphor in thought, metaphor is regarded as a cognitive mechanism, namely, knowledge about more concrete phenomena and experiences is projected onto a more abstract idea (Steen, 2011); and this process is called metaphorical mapping in CMT. In CMT, linguistic metaphors are surface manifestations of conceptual metaphors.

Linguistic materials in Chapter 3 and Chapter 4 were selected from two databases in AphasiaBank. One is data from English speakers; the other is Mandarin. In Chapter 4, we also attempted to apply the metaphor identification procedure MIPVU to Chinese. We explored how linguistic metaphor use in Chinese data because China has an enormous number of PWA, and Chinese and English belong to different language families. This study gave new insights into the metaphor use by Chinese PWA and revealed some differences compared with English speaking PWA’s use of metaphors. In Chapter 5, we tried to combine cognitive and discorsal

approaches via scenario analysis (Musolff, 2006, 2016, 2019). The scenario level offers a link between the conceptual system of metaphors and metaphor use in discourse.

6.3 Main findings

In order to answer the research question “how metaphors are used in aphasia”, we have implemented three studies. In **Chapter 3**, we have designed a quantitative study on data from AphasiaBank (English) to see how metaphors are distributed in eight word classes and three groups (non-fluent aphasic, fluent aphasic and control). The background of this study is the previous research on the interaction between metaphor, word class, and register (or genre). The distribution of word classes is closely related to the genre of the text, that is, certain word classes are more likely to be used in certain genre(s). More importantly, the distribution of linguistic metaphors in different genres is heterogeneous: there is significant association between metaphor frequencies and word classes across genres (Steen et al., 2010). Although our study does not involve various genres, former research in aphasiology (Howard & Hatfield, 1987, p. 147, as cited in Brookshire, 2015, p.193; Goodglass et al., 1966; Laiacona & Caramazza, 2004; Mesulam, 2009) suggested the noun-verb dissociation and imbalanced distribution of function words in fluent aphasia and non-fluent aphasia.

Therefore, one question was proposed based on these previous studies: how linguistic metaphors interact with word classes and different groups of speakers. After the chi-square analysis, we have found in each group, the metaphor distribution differs significantly in word classes; and in determiners, prepositions, verbs, and remainders, the association between metaphor frequencies and groups is significant.

For people with non-fluent aphasia, most metaphors in their utterances are nouns, verbs, remainders, adjectives, and adverbs; for people with fluent aphasia, most metaphors are prepositions, verbs, remainders, nouns, and adverbs; for non-aphasic speakers in the control group, most metaphors are verbs, prepositions, remainders, nouns, and adverbs. For metaphor distribution patterns, the fluent aphasic group and the control group share more similarities. In determiners, metaphors are significantly more used in people with fluent aphasia; in verbs, metaphors are significantly more used in the control group, and less used in two aphasic groups; in remainders, metaphors are significantly more used in the control group, and less used in non-fluent aphasic group.

In **Chapter 4**, we followed the same approaches in Chapter 3. In this study, data are conversations in Mandarin, and there are two groups of participants (fluent aphasic and control). Considering characteristics of Chinese, classifiers and localizers were added to the word class system. Results showed that in each group, the metaphor distribution differed significantly in word classes; and in classifiers, nouns, and remainders, the association between metaphor frequencies and groups proved significant. For people with fluent aphasia, most metaphors in the data are verbs, remainders, and adverbs; for people without language disorder, most metaphors are verbs, remainders, and nouns. In classifiers and remainders, metaphors are significantly more used in the control group, and less used in the aphasic group; in nouns, metaphors are significantly less used in the aphasic group.

In addition, how metaphor types are distributed in groups has also been explored in these two studies. We have discovered similarities in English and Mandarin data: most lexical units are not metaphorically used; most MRWs are indirect metaphors; indirect metaphors are significantly more used by the non-aphasic speakers, and less used by PWA.

The last study is quite different from the previous two. In **Chapter 5**, the object of study is the conceptual metaphor, rather than linguistic metaphor. This study aims to investigate conceptual metaphors on aphasia, and how these metaphors are framed in specific settings. We analysed six metaphors used by people to talk about aphasia itself and their relationship with aphasia: WAR/BATTLE, JOURNEY, THEFT, MOTION IMPEDIMENTS, FOREIGNNESS and GAME/SPORT. These concepts are source domains, and we probed into the metaphorical framing on the scenario level. The conclusion is that these six metaphors are elaborated in various ways in discourse; under the same source domain, metaphors can be framed differently, and they convey diverse information about aphasia. Like the former study on the WAR metaphor in medical settings, Marron et al. (2020) appealed for abandoning this metaphor. However, after the scenario analysis on WAR metaphor, we found it is possible to dispel the cognitive bias caused by one scenario (e.g. PATIENTS ARE HEROES) through using another one (e.g. MEDICAL EFFORTS ARE WEAPONS) under the WAR metaphor. As a result, it is difficult to deny a metaphorical framing use in certain circumstances without a thorough investigation into it.

6.4 Implications of this research

This dissertation has investigated how linguistic metaphors are used by PWA and how people use conceptual metaphors to describe aphasia and express their feelings of aphasia. In these three studies, it has shown that metaphor use by PWA has different features compared with how healthy speakers use metaphors; and metaphors are framed in various ways in communication when people talk about aphasia, aphasia treatment, and aphasia rehabilitation. Results of three studies have methodological and empirical implications for the interdisciplinary research on metaphor and aphasia.

6.4.1 Methodological implications

The application of MIPVU to Chinese in Chapter 4 can be read for reference when it is needed to find linguistic metaphors from Mandarin data. MIPVU was proved to be a feasible procedure to identify linguistic metaphors in English and Dutch (Steen et al., 2010). For Chinese, in order to make MIPVU practicable, we needed to tackle problems about the analysis unit (what is a word or lexical unit) and unique word classes in Chinese.

In Chinese, sometimes it is difficult to decide whether a structure is a word or phrase, especially for verb-object compounds (VOCs) and resultative verb compounds (RVCs). When other elements are inserted in these compounds (the separability of VOCs and RVCs in Chinese), it is necessary to refer to dictionaries and judge carefully where the word boundaries are. When applying MIPVU to Chinese metaphor identification, classifiers and localizers should be tagged and analysed, which is different from the word class system in English.

Additionally, from image schema to scenario (or mental space), metaphorical framings are more specific and context-dependent; and only on the scenario level, language in the real communication influences metaphorical conceptualization (Kövecses, 2017). The scenario analysis in Chapter 5 can be adopted in metaphor study about other topics and contexts. In view of the level of generality of domains, in many cases, it is difficult to perform thorough and in-depth analyses on the use and effects of metaphorical framing founded on the classical theory of CMT alone. Through elaborated analysis on the scenario level, researchers can get overall and detailed ideas on how metaphors are framed about certain topics.

6.4.2 Empirical implications

In Chapter 3 and Chapter 4, we accomplished two empirical studies about the distribution of linguistic metaphors. SLPs can refer to them during their work with PWA (English speaking clients with non-fluent aphasia or fluent aphasia; Chinese speaking clients with fluent aphasia). We recognise that metaphors are not ornamental features in language; instead, metaphor is an important and integral device for people to conceptualize the whole world, and we also use metaphors to express ourselves in daily life. The recovery of metaphors for PWA should not be regarded to be meaningless or insignificant. Some points need to be stressed, for example:

- ① Verb metaphors are significantly less used in English speaking people with fluent aphasia, though there is no significant reduction use of verbs in them.
- ② Noun metaphors are significantly less used in Chinese speaking people with fluent aphasia, though there is no significant less use of nouns in them.

At the same time, we have found that almost all direct metaphors in our data are verbs or nouns, such as “stroke numb you know I burst” and “it (the hurt) was like it was a blowup”. For these groups of clients, the language impairments about verb/noun metaphor production may be a reflection of some defects of direct or more creative metaphorical thought, which needs to be further investigated by neurocognitive scientists and aphasiologists.

For caregivers and therapists, it is beneficial to use proper metaphorical framings, and endeavour to recognise and understand PWA’s metaphors in communication. Chapter 5 has listed some metaphors about aphasia and aphasia experience. More importantly, we gave examples and detailed analyses on every source domain. Hopefully, these can be helpful when caregivers and practitioners interact with PWA. For instance, when explaining the slow progress of aphasia recovery, it is viable for SLPs to adopt STEP, MARATHON, COACH, and TEAM metaphors to empower their clients. Moreover, when PWA, family caregivers and medical staff are conceptualised as team members in a game, aphasia sufferers and their family members may feel supported and more confident when dealing with tough issues during recovery.

6.5 Limitations and suggestions for future studies

This dissertation explores how metaphors are used in aphasic contexts. Metaphors have been analysed and discussed from two perspectives: language and thought. However, current study does not talk much about metaphor in communication. It is a rather complex topic that many scholars have discussed from different aspects (Cameron & Deignan, 2006; Gibbs, 2017; Gibbs & Cameron, 2008; Steen, 2008; Steen, 2017). Take the dynamical systems view as an example (Gibbs & Colston, 2012, pp. 121-126), as an individual's behaviours, metaphor production and understanding depend on the interaction of human brain, body, and environment. It emphasizes "how various cognitive, linguistic, social and cultural forces simultaneously shape" the use and comprehension of metaphors (Gibbs & Cameron, 2008). As for this current research, all three studies are corpus-based, and we have explored the metaphor use with data from corpora, which are products of metaphorical behaviours. It is impossible to cover all elements about metaphor in communication (individual minds and bodies, cultural and social impacts, etc.).

Another limitation is the relatively small size of the Mandarin data. In the future, if more interview materials are added, it would improve research design to have a group of participants with non-fluent aphasia. In this way, we can have a better comparison between metaphor use in English speaking PWA and Chinese speaking PWA.

For future studies on metaphor use in aphasia or other discourse, metaphor in communication can be included in the research framework. In practice, we can learn from some previous research about methods and approaches. For instance, researchers can get people's evaluations on metaphors through carrying out interviews (Demjén et al., 2016) and reading online comments (Fuoli et al., 2021). Experiments were also designed and implemented to collect subjects' opinions on metaphor use (Hendricks et al., 2018; Thibodeau & Boroditsky, 2011). Participants were asked to read passages containing certain metaphorical framings, and then they were requested to answer some questions in order to see whether metaphors can affect readers' perception or understanding on a particular matter.

Furthermore, in examples of Chapter 5, we found some extended metaphors and mixed metaphors when people described aphasia and aphasia experience. As for extended metaphors, people can elaborate a single metaphor structure at length throughout a whole paragraph, like the example of APHASIA IS LIKE A ROAD WITH A DRAWBRIDGE in Chapter 5; and sometimes, the speaker combines two or more different metaphors, for instance, a SLP mixed two scenarios CHESS and MARATHON and compared these two games to speech therapy. Analysis of extended metaphors or mixed metaphors may bring us some new understanding on metaphor use in aphasia.

We discussed linguistic metaphor in Chapter 3 and Chapter 4; however, multimodal metaphors can also be found in videos of interviews in AphasiaBank. For PWA, because of the speech impairment, many of them tended to use gestures to express themselves. Even for stroke survivors with hemiplegia, they could gesture with the unaffected hand. For instance, when a person with anomic aphasia talked about his language after stroke, he said, "a whole bunch of sentences". At the same time, he raised his hand with the palm down. This metaphorical gesture corresponds with the MRW "bunch". To study the multimodality of metaphors used by PWA can broaden the horizons of metaphor use in aphasia, and it will be helpful for therapists

and caregivers to guide PWA for gesture use in communication; and of course, it will be a big project that needs a great deal of work.

Figure 6.1
The Gesture for “A Whole Bunch of Sentences”

The screenshot displays a software interface for analyzing speech and gestures. On the left, a video window shows a person in a blue shirt gesturing with their right hand while speaking. Below the video, there are fields for 'Folder' and 'chans', and 'Close' and 'Run' buttons. On the right, a list of sentences is shown, each with a corresponding gesture description. The list is numbered from 34 to 63. The gestures are described using a shorthand notation, such as 's-head:shakes' for head shaking or 's-uh' for a vocalization. The sentence at line 58 is highlighted in yellow: 'I'll publish a whole bunch of sentences. It's great!'. The interface also includes a 'Collab' button in the top right corner.

To sum up, in this dissertation, we have answered the overall question “how metaphors are used in aphasia”. The main research goal is attained by achieving subgoals in three studies. From the perspectives of language and thought, this research has built up a picture on how metaphors interact with word classes and different types of aphasia, and metaphorical framings on aphasia have been analysed on the mental space level to see how they work in discourse.

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