厦门大学

硕 士 学 位 论 文

Cognitive Investigation of Interpreting Theories
And Cognitive Approach to Interpreting

口译理论认知调查与口译认知理论

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论文提交日期：2007 年 5 月

论文答辩时间：　　年　　月

学位授予日期：　　年　　月

答辩委员会主席：_____

评　　阅　　人：_____

2007 年 6 月

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Synopsis

Interpreting is a very demanding kind of inter-lingual communication, the success of which depends largely on the performance of the interpreter. Researchers have looked into various aspects pertaining to the interpreter's performance, such as the qualification, process, quality and techniques of interpreting. However, not much progress has been made in cognition -- the mechanism that underlies the interpreter's performance. This is partly because how the brain works is still a mysterious black box to researchers. Though mainstream interpreting theories at home and abroad have looked into some cognitive problems, there is no independent cognitive interpreting theory so far.

This thesis is an attempt to fill the theoretical void by laying out the framework of a new theory -- cognitive approach to interpreting. The theoretical rationale mainly comes from two disciplines: cognitive psychology and interpreting theories. The research achievements of cognitive psychology provide theoretical references concerning cognition, while existing interpreting theories serve as a platform for theoretical construction.

The thesis consists of three chapters. Chapter 1 discusses the definition and the basis for cognitive approach to interpreting. Chapter 2 is an investigation of cognitive issues covered by mainstream interpreting theories at home and abroad. Chapter 3 is the theoretical construction of cognitive approach to interpreting. Firstly, the nature of interpreting is analyzed from cognitive perspective. Secondly, interpreting cognitive mechanism is divided into cognitive basis, cognitive operation and cognitive regulating -- meta-cognition. Thirdly, analyses are made concerning the composition and the interaction of cognitive basis, cognitive operation and meta-cognition. Fourthly, the application of cognitive approach is discussed. The thesis ends with a conclusion that summarizes the innovation and application of cognitive approach to interpreting.

Key Words: interpreting theory; cognitive investigation; cognitive approach to interpreting

摘　　要

　　口译是要求极高的语际交际活动，其成功很大程度上依赖口译员的表现。研究人员对口译员表现的相关方面进行了研究，这些方面包括口译的资格要求、口译过程、口译质量、口译技巧等。但对于口译员表现的内在机制——认知的研究却进展不大。部分原因是大脑如何运作对研究者而言仍是神秘的黑箱。尽管国内外口译理论主流对口译认知有所研究，但是目前还没有独立的口译认知理论。

　　本文尝试填补这一理论空白，提出新的口译理论框架——口译认知理论。其理论原理来自两个学科：认知心理学和口译理论研究。认知心理学的研究成果为口译认知理论提供认知的理论参照，现有的口译理论研究成果则作为口译认知理论的理论构建平台。

　　本文分为三章。第一章探讨口译认知理论的定义及其构建依据。第二章对国内外口译理论的主流进行认知方面的调查。第三章构建口译认知理论的框架。首先从认知角度对口译性质进行探讨。其次，将口译的认知机制划分为三个部分：认知基础，认知运作和认知调控——后设认知。第三，对口译的认知基础，认知运作和后设认知的构成及其相互作用进行分析。第四，对口译认知理论的应用进行探讨。本文的结论对口译认知理论的创新和应用进行总结。

关键词：口译理论；认知调查；口译认知理论

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Chapter One   Definition and Basis for Cognitive Approach to Interpreting

1.1 The Definition of Cognitive Approach to Interpreting

According to cognitive psychologist S. K. Reed, cognition is defined as the acquisition and use of knowledge, which involves many mental skills. (Reed, 1996:4) Interpreting can be considered as a process where the cognition acquires knowledge from source language speech, processes it, and then delivers it in target language. Researchers have been interested in how cognition works in the interpreting process, and various interpreting theories have more or less alluded to cognition. However, there is no theory that investigates interpreting from the perspective of cognitive science. This thesis is an effort to propose a cognitive approach to interpreting.

Cognitive approach to interpreting refers to the investigation of interpreting from the perspective of cognitive science. From the cognitive perspective, this approach aims to analyze the nature of interpreting and describe the cognitive mechanism in interpreting.

1.2 Theoretical Basis for Cognitive Approach

According to psychologists, modern cognitive psychology covers twelve areas of research: cognitive neuroscience, sensation/perception, pattern recognition, attention, consciousness, memory, representation of knowledge, imagery, language, cognitive development, thinking and concept formation and human and artificial intelligence. (Solso, et al, 2005:6). All the twelve research areas are directly related to interpreting except artificial intelligence. Therefore, there are ample reasons for us to adopt cognitive perspective in the research of interpreting.

The theoretical basis for cognitive approach lies in the following facts and perspective: major interpreting theories at home and abroad have more or less discussed cognitive problems, though they are not necessarily cognitive in approach; cognitive researches in various disciplines provide ample theoretical references to interpreting research; and the application of the latest cognitive research in interpreting is likely to usher in a productive new theory -- the cognitive approach to interpreting.

1.2.1 Cognitive Elements in Major Interpreting Theories

Though major interpreting theories vary in approaches and methodology, they have tackled some cognitive issues from different angles. In order to have a panorama view, it is necessary to look into the cognitive elements in mainstream interpreting theories at home and abroad.

According to Xiao Xiaoyan, mainstream interpreting theories abroad include information-processing paradigm headed by D. Gerver and S. M. Lambert in the 1970s, French Interpretative Theory headed by Danica Seleskovitch and Marianne Lederer, the Effort Models proposed by Daniel Gile (2002:71). At home, mainstream interpreting schools include Liu Miqing's interpretation and translation studies, interpretative approach led by Cai Xiaohong, Liu Heping, Bao Gang etc, and Xiada Model for interpreting training.

Different as they are, all these theories have one thing in common, that is, they have more or less discussed cognitive issues. Interpreting theories abroad are more distinctive from each other, and each theory has its own highlights and features. The information-processing paradigm applies psychological experiments to analyze variables like source language speech, noise, verbal speed, and Ear-Voice Span etc, and speculates their influence on interpreters. The French Interpretative Theory argues that language is only a tool, not the object of interpreting. This school holds that interpreting is a communicative activity where cognition operates in the circumstances of source language, target languages and on-site communicative environments. (Xie Baohui, et al, 2006:27) Daniel Gile refers to capacity theories in cognitive psychology to develop models for simultaneous interpreting and consecutive interpreting. The models have strong explanatory power concerning errors and omissions of interpreters.

Chinese interpreting theories take shape by adopting and integrating various interpreting theories abroad. Liu Miqing makes cognitive analysis of interpreting in light of Wittgenstein's linguistic view. Chinese followers of Interpretative Theory apply the French theory to Chinese settings, and make further research in interpreting thinking mechanism and teaching of interpreting. The Xiada Model is a nonlinear model that combines cognitive operation with external factors.

In a word, though current interpreting schools vary in approaches and emphases, cognition is an indispensable issue in their theories.

1.2.2 Multi-disciplinary Cognitive Research as Theoretical Reference

As is discussed above, cognitive issue is an indispensable part of interpreting research. Yet interpreting researchers generally lack the theoretical and practical means to carry out cognitive research all by themselves. Therefore, it is advisable for them to consult various disciplines relative to cognition. Helpful disciplines include general cognitive psychology, psychology of language, psychology of reading, cognitive approach to discourse analysis and cognitive approach to pragmatics -- the relevance theory.

As for general cognitive psychology, it is advisable for interpreting researchers to consult classic monographs. According to Huang Xiting, deputy director of Chinese Psychology Society, such classic monographs available in China include *Cognitive Psychology* by J. R. Anderson, *Cognitive Psychology* by R. L. Solso, and *Cognitive Psychology* by John B. Best (Huang, 2000:preface). Their research provides rich theoretical references to interpreters. In 1980, American cognitive psychologist J. R. Anderson put forward a syllogistic cognitive sequential model, which illustrated the three stages from thinking to speech: structuring stage, transferring stage and performing stage. Liu Miqing applies this sequential model to interpreting theory as follows: structuring stage -- overall comprehension of source language text (SLT), transferring stage -- transferring SLT into target language text (TLT) by finding the correspondence, and performing stage -- TLT parole is demonstrated as communicative service (Liu, 2003:49). For details please see Figure 1.
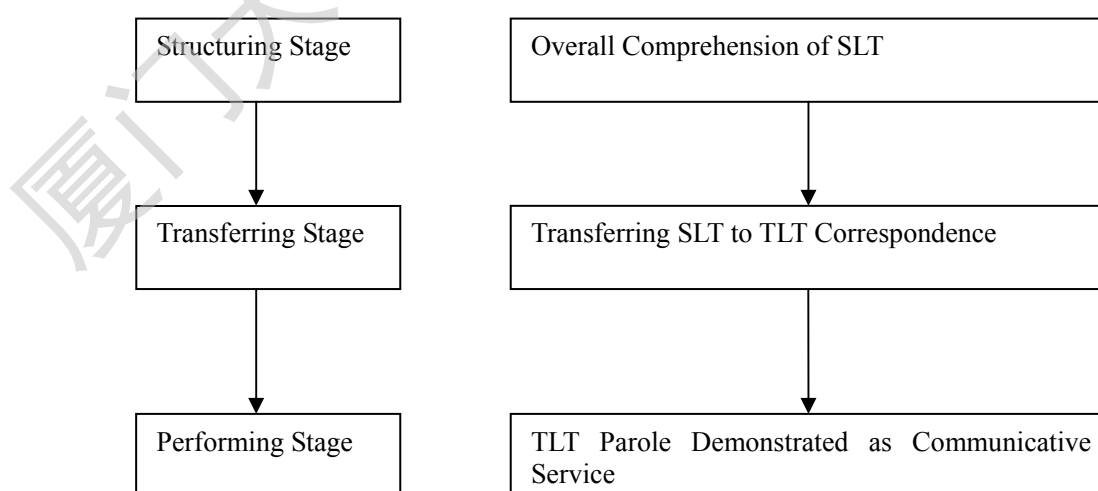

Figure 1: Liu Miqing's interpreting process based on Anderson's Cognitive Model. Adapted from Research on Interpreting and Translation Research:2004:49.

Compared with general cognitive psychology, psychology of language is more closely related to interpreting process. While cognitive psychology studies general psychological issues from the information processing perspective; psychology of language, also call psycholinguistics, studies how we speak, read, remember, learn and understand language -- issues directly related to the interpreting process. Recommended readers include David W. Carroll's *Psychology of Language*, and Timothy B. Jay's The *Psychology of Language*. A useful branch of psychology of language is second language acquisition, which looks into the way people learn foreign languages. One useful book for reference is *A Cognitive Approach to Language Learning* by Peter Skehan.

More applicable in interpreting research is theories in psychology of reading，as it elaborates language comprehension. One particular interesting aspect is the meaning construction, which according to Richard Mayer includes three kinds of knowledge: content knowledge, strategic knowledge, and meta-cognitive knowledge. Content knowledge refers to students' prior knowledge about a subject. Strategic knowledge has to do with the strategies readers use to understand text structure. Meta-cognitive knowledge has to do with the reader's ability to monitor his/her own reading and comprehension (2003:80). Though this theory is developed in the field of reading comprehension, the basic principles are valid in explaining the interpreting process.

Another useful research field in psychology of reading is the study of knowledge. According to Chen Xianchun, there are three kinds of representations of knowledge: schemata, notion and expression (1998: 201). Theories and researches into these fields are very instructive for interpreting research. According to psychologists, "schema theory discusses how we use schema, or categorical rules or scripts to interpret and predict situation occurring in our environment. (Widmayer, 2007) Interpreting researchers can refer to this theory to study comprehension and anticipation in interpreting. Notion refers to conception or impression of something known, experienced, or imagined, which is shared by the community, abstract and subconscious in nature (Chen, 1998:201-203). Research in this field will help to explain some of the cross-cultural phenomena in interpreting process. The research in expression covers thinking and language, different ways of expression in different languages, which will give light to some of the interpreting hurdles in different

language pairs.

Still another theoretical reference for interpreting research is the cognitive approach to discourse analysis. In this approach, discourse is analyzed in the four dimensions of language, culture, psychology and computation (Chen et al, 2004:1). As discourse analysis is carried out throughout an interpreting process, this new approach could contribute to source language comprehension and target language production in interpreting. Recommended reader is *A Cognitive Approach to Discourse Analysis* by Chen Zhonghua, Liu Xinquan and Yang Chunyuan.

Lastly, cognitive approach to pragmatics -- the relevance theory is anther source of reference. In this theory, communication is "a process involving two information processing devices. One device modifies the physical environment of the other. … The study of communication raises two major questions: first, what is communicated, and second, how is communication achieved?" (Sperber &Wilson, 2001:1) This description fits neatly into the interpreting process, where the speaker modifies the physical environment of the interpreter. Moreover, what is communicated and how communication is achieved are two of the major concerns of the interpreter.

In short, theoretical and applied cognitive studies provide rich theoretical references for interpreting research.

1.2.3 Promising Interdisciplinary Research

As we can see, interpreting and cognitive psychology are two distinctively specialized disciplines. Though various interpreting practitioners and researchers have more or less discussed cognitive issues in their research, their efforts are often frustrated by the lack of theoretical guidelines and research methodologies of cognitive psychology. On the other hand, cognitive psychologists possess such theories and methodologies, but they are rarely involved in the interpreting practice. If researchers from both disciplines learn from each other, research in both fields can be more fruitful.

The cognitive research prospects of interpreting practitioners and researchers are both promising and demanding. They are promising because they are equipped with cognitive theories that enable them to better understand the innate mechanism of interpreting. They are also demanding because those theories are very general and abstract, thus interpreting practitioners and researchers can not assume that they can

readily solve all their problems with those theories. Much remained to be done before those theories can be instructive and constructive in the interpreting context.

This paper is an effort to integrate findings in theoretical and applied cognitive research into interpreting research, so that the barriers between the two disciplines will be reduced and the achievements of both fields can exert the optimal effects.

1.3 Practical Basis for Cognitive Approach

Interpreters are trained, not born. The reason is self evident: the interpreting tasks they face are very demanding. It takes years of training for a bilingual person to become qualified as a professional interpreter. Even after one has obtained the qualification, self-improvement is necessary for him or her to stay on the market. If an interpreter can constantly apply the cognitive approach to self improvement as well as interpreting practice, his or her chances to survive the competitive market will be greatly enhanced.

1.3.1 Role of Cognition in Self Improvement

According to Sino-British English Cooperation Project Group of Xiamen University, the qualifications of a good interpreter include "a high level of linguistic competence, wide general knowledge, sufficient subject-specific knowledge, and the necessary cross-cultural awareness as well as a good mastery of interpreting skills, such as note-taking techniques, the ability to abstract and paraphrase, the art of public speaking and a good memory". (1999: 4) That is to say, an interpreter has to improve himself in language competence, knowledge structure, and interpreting techniques.

When carrying out such a multi-purpose task, interpreters constantly face a dilemma: on the one hand, there are too many fields to improve; on the other hand, the lack of a focus frustrates their effort. As a result, they often fall into a vicious circle: the lack of focus frustrates their self improvement effort, and the lack of improvement causes difficulties in the interpreting process.

To break the vicious circle, cognitive principles should be applied. First of all, self improvement can be carried out through case studies. It is advisable for an interpreter to review an interpreting task he or she just finished and make an overall assessment of the strength and weakness of his or her performance. Then, he or she can make an outline of fields to be improved. With the contents of interpreting fresh in mind, the