Coherence in Simultaneous Interpreting:
An Idealized Cognitive Model Perspective

论同声传译过程中语篇连贯
——基于理想化认知模型分析

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Preface

Based largely on my doctoral dissertation, this monograph aims to explore coherence in simultaneous interpreting (SI) from the viewpoint of Embodied Cognition, a theory based on bodily experience, and in so doing, to make a critical examination of the previous theories in the field of linguistics and simultaneous interpreting studies, relating to coherence, and to provide a new perspective on SI research and training.

This study is the outcome of a growing personal concern and enthusiasm for interpreting theories and practice. I started to work as a professional translator and interpreter for a China-based machine tool company since 1991 after I had pursued my studies of English language, linguistics and translation and interpreting theories for nearly a decade since my BA program in 1982. My translation and interpreting profession involved mostly translating a large amount of technical documents, and more often than not, interpreting for technical and business negotiations consecutively, and intermittently doing whispered interpreting simultaneously, and occasionally sight interpreting. During this period I started to be fascinated by SI.

After being engaged in interpreting for some time I came to find that, for an interpreter, making sense of the speaker's utterances in a particular situation by drawing on her background knowledge, and establishing links between units of concepts to achieve coherence is the most important skill. In other words, interpreting does not mean word-for-word literal translation, but involves both cognitive process and knowledge. Some knowledge which is directly related to understanding is based on bodily experience, that is, understanding on the basis of a certain physical engagement, coherence can be achieved instantly; other knowledge, for instance, technical concepts, is abstract, but can be understood indirectly by making analogy to everyday concept (e.g. electric current can be compared to water flow in the pipe). This suggests to me that I could make sense and achieve coherence more in what I was involved in through bodily experience than in what was invisible or beyond me. Therefore, what are the links between an interpreter's bodily experience, her

understanding and her capacity to build coherence?

In addition, I normally received reminders from the chief negotiators before interpreting for an international technical and business project; for instance, *save your energy today because we start with general descriptions; but tomorrow your interpreting task will be demanding since we will move on to the technique specifics, especially, tomorrow afternoon, you must be attentive in that we will come to the critical terms of payment and its mode.* It suggests to me that, there is a certain match between the way information is conveyed, i.e. the information structure, and the required mental effort expended in achieving coherence, but how are both of them connected?

To address these questions, it was obvious that an interdisciplinary approach was needed. I set out to formulate some of my concerns about the nature of the principle, rules and skills advocated in interpreting studies. Some of the methodology was valid and seemed to make sense, some was questionable.

In 2005 I had an opportunity to pursue my further study in translation and interpreting in the Department of Language and Intercultural Studies (LINCS), Heriot-Watt University, Edinburgh, UK, as a visiting scholar, thanks to the funding from China Scholarship Council (CSC). During the one year study (May 2006 to May 2007), I was privileged to be supervised by Professor Ian Mason, who helped to broaden my horizon by studying cognition and pragmatics-based Relevance Theory, from which I went on to study Embodied Cognition theory. The combination of interpreting and Embodied Cognition appealed to me, echoing the concern latent at the back of my mind, but it became obvious that the complex nature of the issues involved required a prolonged period of concentrated and diligent research. By addressing the issues in question, I completed my PhD project, and further accomplished this monograph.

Contents

Chapter 1
Introduction

Simultaneous interpreting (SI) is a mode of conference interpreting, in which the interpreter produces messages in the target language (TL) whilst listening to them in the source language (SL). SI is widely used in international conferences as a form of instant and efficient translation. As the communication needs in international cooperation have increasingly expanded in the fields of politics, business, science and technology, researchers have studied SI by drawing broadly on concepts of other academic disciplines, such as cognitive science and linguistics. However, much remains to be discovered about how exactly the interpreter is able to carry out her work. This thesis will contribute to the ongoing project by discussing how Embodied Cognition, a bodily experience based theory, may further our understanding of SI.

The simultaneous interpreter speaks into a microphone while seeing and hearing the source language speaker via the sound-proof booth windows and earphones respectively and rendering her interpretation to the target language listeners. She alternates with another team member every twenty to thirty minutes or as the speakers take turns on the conference floor. But conference interpreters are normally trained initially in consecutive interpreting (CI), either short or long. In short consecutive interpreting, the interpreter relies on memory and segments each message into short chunks, while in long consecutive interpreting the interpreter takes two to five minute notes to facilitate rendering a long chunk of speech. Consecutive interpreting is generally used at small, bilingual meetings, such as technical and business negotiations, and ceremonial occasions. In interpreting training, a continuous,

successive approach to CI and SI is adopted; the interpreter trainees are guided from practising CI, allowing the greatest degree of accuracy and the full telling of the narrative, subsequently to practising SI, which requires great concentration in order to achieve the synchronic processing of listening and speaking.

The exclusive concern of this study is to discover how the simultaneous interpreter makes sense of the speaker's utterances and establishes links between concepts—units of meaning and knowledge—in order to achieve coherence, while simultaneously producing the interpreted version. In order to achieve this coherence, the interpreter is trained to develop a particular set of skills. For instance, the interpreter needs to develop the skill of anticipation (that is, recognizing speech formulae (e.g. *ladies and gentlemen*), word collocation (e.g. we will *help you with* this project), and the function of the speaker's stress or intonation) using her knowledge to predict what the speaker is about to say. If the speaker's utterances are vague, or if the interpreter lacks the background knowledge, she has to use her skilled judgment to make a final, appropriate choice of the message among several alternative scenarios for her output. The interpreter needs to have the ability to compensate, using contextual or topical knowledge to summarize rather than trying to translate everything. This allows the interpreter to compensate for the idiosyncrasies in the speaker's delivery that is too fast, or of unclear links or for lack of clarity. The interpreter is trained to develop the skill of coordination, by dividing attention or alternately switching attention between her listening and speaking progression, so as to become coordinated and automatic with practice and experience; in so doing, the interpreter learns to take advantage of the speaker's pauses to put out her interpreted messages where possible. Although it partially involves examination of these interpreting skills, this research is primarily focused on the interpreter's coherence-building process, in relation to the cognitive process which is taking place.

1.1 Introducing the topic

The most spectacular and mysterious aspect of SI is its synchronicity (Setton 1999: 27). SI requires the interpreter to listen in one language while speaking in another with ear-voice span (EVS) or lag ranging from two to four seconds minimum (Paneth 1957/2002), and two to ten seconds maximum (Oleron and Nanpon 1965). Regarding the rate of speech input, Seleskovitch (1965) suggested that an input rate of one hundred (100) to one hundred and twenty (120) words per minute (wpm) was an optimum one for the interpreter, with one hundred and fifty (150) to two hundred (200) wpm as an upper limit. In order to achieve synchronicity, SI requires the interpreter to develop both her working memory (WM) (the ability to hold actively in the mind the information needed to do complex tasks such as reasoning, understanding) and her short-term memory (STM) (the ability to process and retrieve information).

The account of these phenomena in SI above involves *cognition*. In a broad sense, the term cognition refers to the mental processes in acquiring and using knowledge, involving perception, thinking, comprehension, memory, and language. In the field of cognitive science, the meaning of the term cognition varies between the classical view and the Embodied Cognition perspective. Embodied Cognition theory has been derived from the second generation of cognitive science of the embodied mind. According to Lakoff and Johnson (1999: 78), the distinction between the first generation and the second generation of cognitive science lies in disembodied or embodied cognition, and the difference is one of philosophical and methodological assumptions. The traditional first generation of cognitive science claims that the capacity for thought and reason is abstract and not necessarily embodied in any organism. In other words, the human embodiment of understanding has no significant bearing on the nature of meaning and reason (Johnson 1987: x). In opposition to this classical Objectivist view, by the mid- to late 1970s, an increasingly prominent view of cognitive science, based on Experientialism, developed into the Embodied Cognition theory, challenging the fundamental tenets of traditional

cognition theories. On the basis of a series of empirical studies, the experientialists assert that thought primarily grows out of bodily experience, i.e. embodiment.

According to the notion of embodied cognition, in a broad sense, any interaction with both the physical and social environments counts as Experience (capitalized in the original) (Lakoff 1987: xv). In a narrow sense, embodied cognition stresses the role of the *sensorimotor system* (Lakoff and Johnson 1999: 11)—our eyes, legs, arms and their associated sensory nervous systems—to understand the world. This physical, direct experience gives rise to the 'best understanding' or 'direct understanding' which encompasses embodied concepts (Lakoff 1987: 294), 'accessible in a single step' for processing (Sperber and Wilson 1985/1996: 138). However, those concepts which are beyond the direct physical experience will need imagination to process, for instance, by metaphor. These non-embodied, abstract concepts which need several steps to process (Sperber and Wilson 1985/1996: 138) are taken to be based on 'indirect understanding' (Lakoff 1987: 294). The concepts are formed at different levels of accessibility. They appear to be stored at different distances from the processing centre, i.e. the brain, measured via the cognitive load required to access them.

The term *cognitive load* in this study is used to refer to the interpreter's capacity to control her working memory in order to retain and process information. The interpreter has only a limited amount of mental capacity available for processing information with varying degrees of difficulty in the textual structure. The interpreter builds coherence better when she builds on what she already understands. However, if the interpreter does not make any sense of the current stretch of speech, she is unlikely to achieve overall coherence. In this case, the interpreter's cognitive load is higher because her brain must work harder to understand the new information. As an index of cognitive load, the interpreter's mental effort is defined and measured in different ways, for instance, in terms of the score of coherence clues (see Section 1.2) attained through her interpreting performance.

Cognitive processing is not just dependent on the immediate context but also on a large number of stored and interrelated contexts which we have experienced. The term *cognitive model* is used to cover these knowledge-based cognitive representations pertaining to a certain field (Ungerer and Schmid 2001: 47). The theoretical framework for this present research is based on the theory of the *Idealized Cognitive Model* (ICM). The ICM is one of the primary concepts of Embodied Cognition theory, and it is concerned with how knowledge is organized and structured on the basis of bodily experience and imaginative capacity. For the thinker, the ICM is an internal model constructed in the mind. As human individuals, basically we each make a mental model of patterns of our daily life in order to be able to think about things. For the theorist in embodied cognition, the ICM is a particular cognitive model, which is designed to describe knowledge structures. Knowledge consists of conceptual structures, and the ICM is used to describe these conceptual structures. According to Embodied Cognition theory, an ICM has the following basic properties (Lakoff 1987: xiv–xv): thought is embodied. The core of our conceptual system is directly grounded in perception, body movement, and experience of a physical and social character. Thought is imaginative. All of those concepts which are not directly grounded in experience must use imaginative capacities, such as metaphor, metonymy, and mental imagery for understanding. Thought has an ecological structure in which elements interact and feed off each other. The conceptual structure has the overall unified structure, beyond the mere mechanical manipulation of abstract symbols. This ecological structure determines the efficiency of cognitive processing, as in *interpreting* and memory. The word *idealized* means that the ICM might not fit what is true of the world all the time and 'one would need to allow background conditions to fit partially and to allow partial contradictions' (Lakoff 1987: 202).

Coherence is a problematic and elusive notion due to the diversity of linguistic and non-linguistic factors (Baker 2008: 218–253). From the perspective of the texture (i.e. aspects of text organization), coherence is a network of relations which organize and create a text. This approach to

coherence analysis is based on text linguistics which concerns itself mainly with the analysis of spoken and written texts above the level of individual sentences (Hatim and Mason 1990: 243). From the perspective of the recipient, either the reader or the listener, coherence is an outcome of the interaction between knowledge presented in the text and the recipient's own knowledge and experience of the world (Baker 2008: 219). This kind of approach to coherence analysis is based on pragmatics, which is concerned with the way utterances are used in communicational situation and the way they are interpreted in context. It may also be based on cognition which is concerned with the way the communicator mentally processes the information for comprehension, the way a recipient's mental processes reflect the textual structure of the source text (ST) with different difficulty degrees in information distribution. In this study, coherence is defined, from the perspective of the interpreter, as a cognitive process of building up links to relevant concepts from the source text (ST), and applying her bodily experience based knowledge, in order to generate an equivalent target text (TT). This research is conducted to explore how coherence is achieved in SI, by investigating two points: 1) the effect of the interpreter's relevant bodily experience in helping her to achieve coherence in ST and TT; 2) The interpreter's mental effort, expended in achieving coherence, reflecting the textual structure of the source text (ST), from the textual and embodied cognition view. As discussed above, bodily experience here emphasizes physically engaged actions which give rise to the basic-level concepts, directly grounded in our perception, rather than Experience in a broad sense. However, direct bodily experience is turned into Experience in this broad sense as it is integrated into the social context. The concepts are formed at different levels of accessibility due to different distances to the processing centre—the brain, the interpreter's mental effort is measured, via her cognitive load required to access them, in her coherence-building process.