DISSERTATION / DOCTORAL THESIS

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„Simultaneous Interpreting with Text:
A Study in the Context of the United Nations"

verfasst von / submitted by

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Abstract

Multilingual conferences of the United Nations (UN) offer a unique work environment for interpreters. Conference interpreters in this setting provide simultaneous interpreting to facilitate communication between delegates speaking in a UN language. As speakers often read from a written script, interpreters typically render the recited speech with the help of the script made available to them, referring to the written text while listening to the speaker. Working in this mode, known as 'simultaneous interpreting with text', is assumed to bring benefits as well as risks for interpreters' cognitive processing operations and may therefore affect the quality of their output. This research investigates interpretations delivered in this working mode in the institutional and situational environment of UN conferences. It aims to establish whether, and if so how, simultaneous interpreters' output varies when they use the script or not. It tests the hypothesis that simultaneous interpreting with text improves the content-related aspects of performance quality but negatively affects the form and delivery of simultaneous interpreters' output. This research analysed a corpus of authentic UN discourse (i.e., four dozen English speeches delivered from a script and the corresponding simultaneous interpretations into Chinese) regarding 17 output-related features. The corpus-based analysis is triangulated with findings from a field observation of two UN meetings in Geneva and Vienna and a web-based survey experiment among a group of experts approximating the target audience of the interpretations. The findings 1) confirm the prevalence of UN interpreters' use of the script in the booth; 2) show differences in an interpreter's output resulting from working with and without the script; and 3) indicate listeners' preferences for interpretations delivered without using the script. It is concluded that working with the script is both beneficial and detrimental to the quality of simultaneous interpreters' output: it enhances source–target correspondence for details and target-language syntax but has a negative impact on fluency and correct lexical usage. The implications for simultaneous interpreters' working conditions and performance criteria and for the perceived quality of their work are discussed.

Keywords: simultaneous interpreting with text, the United Nations, quality assessment, user perspective

TO MY PARENTS, AUNT, AND GRANDMOTHERS

for their unconditional love

and

sharing the bittersweet of my PhD journey of discovery

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List of Abbreviations

APSCO	Asia-Pacific Space Cooperation Organisation
AIIC	International Association of Conference Interpreters
CACL	Committee for Admission and Language Classification
CCV	Varembé Conference Centre
CI	Consecutive Interpreting
CICG	International Conference Centre Geneva
COPUOS	Committee on the Peaceful Uses of Outer Space
DRR	Disaster Risk Reduction
EU	European Union
FAO	Food and Agriculture Organisation
GA	General Assembly
GAR	Global Assessment Report
GPDRR	Global Platform for Disaster Risk Reduction
IAASS	International Association for the Advancement of Space Safety
IAEA	International Atomic Energy Agency
LCE	Language Competitive Exam
ICJ	International Court of Justice
ILO	International Labour Organisation
LoN	League of Nations
OHCHR	Office of the High Commissioner for Human Rights
SDGs	Sustainable Development Goals
SI	Simultaneous Interpreting
UN	United Nations
UNDRR	United Nations Office for Disaster Risk Reduction
UNOG	United Nations Office at Geneva
UNOOSA	United Nations Office for Outer Space Affairs
UNOV	United Nations Office at Vienna
UNTERM	United Nations Terminology Database
VIC	Vienna International Centre
VKD	German Association of Conference Interpreters

List of Language Codes Used

AR   Arabic

EN   English

ES   Spanish

FR   French

RU   Russian

ZH   Chinese

Introduction

The research presented in this thesis was motivated by my personal experience of practising in a dummy booth at the United Nations (UN) Office in Vienna, where my first and main task was simultaneously interpreting a read speech with the script available in the booth. Having written my master's thesis on this (see Zhao 2015), I was greatly overwhelmed by the cognitive demands of this working mode. This strengthened my ambition to do further research.

Simultaneous interpreting (SI) is a mode of interpreting in which an interpreter listens to a speech and simultaneously speaks the corresponding rendition. Ever since its increasing adoption in various international events after the Nuremberg Trial, especially by the UN, it has proved highly efficient in enabling instant real-time communication between individuals speaking different languages.

Speakers in such events sometimes talk impromptu, aided by presentation slides consisting of images and written text, and sometimes read verbatim from a prepared script of their speech. These materials, along with other documents (e.g., the agenda, abstracts, and conference proceedings), are often made available ahead of time for interpreters' preparation. This is especially common in UN conferences, where delegates typically deliver speeches by reading from a written script and are requested to provide interpreters with the script (or even the corresponding translation). Consequently, the availability of the script allows simultaneous interpreters to refer to it while listening to the speaker. It is hoped that interpreters using the script of the speech would produce interpretations of higher quality (e.g., accuracy) than when working without the script. Nevertheless, reading the script during SI requires interpreters to spend additional effort and could therefore make them experience cognitive overload. As reported by professionals like Shermet (2017) and gleaned from my personal conversations in the UN, not every simultaneous interpreter feels comfortable working with the script in UN conferences in all situations, particularly when delegates speak fast and read from a script that is complex in syntax and dense with information. These phenomena, viewed as typical of UN speeches (as will be discussed in detail in Chapter 2), pose further challenges to interpreters' constrained processing capacity. As a result, using the script during SI, usually referred to as 'simultaneous interpreting with text' (SI with text), may be detrimental to interpreters' performance.

Many practitioners in the UN interpreting community perceive SI with text to be more stressful and difficult than SI without text (see Baigorri-Jalón and Travieso-Rodríguez 2017). Despite this, there is no consensus as to whether, and if so how, simultaneous interpreters' performance varies when working with the script or not. To date, only limited empirical research has been conducted regarding the impact of following the script on SI performance (e.g., Cammoun et al. 2009; Lambert 2004; Lamberger-Felber 2001, 2003; Seeber 2015; Setton and Motta 2007). Although some research findings indicate that using the script during SI is likely to affect interpreters' performance, the available evidence is limited by methodological shortcomings (e.g., insufficient sample size) and thus could not confirm the presumable effect. Furthermore, no research thus far has examined that impact from the perspective of users, the ultimate recipients of SI services. It remains unclear, for instance, whether SI with text is just an issue for interpreters or whether this also influences the way interpretation users perceive and assess the professional service received.

In view of the gap in the literature, this research aims to offer insights into the effect of SI with text on the quality of interpretations. It focuses exclusively on the setting of UN conferences, in which interpreters frequently work with the script of recited speeches in the booth. It seeks to 1) explore in what situation and environment SI with text is often performed; 2) identify how interpreters' output could be affected when they simultaneously render a read-aloud speech with the script available in the booth; and 3) investigate how users perceive the quality of interpretations delivered in this working mode.

To achieve the aim and objectives, this research adopts a multi-method design that considers various perspectives (i.e., the interpreters, the analyst, and the interpretation users) and includes both qualitative and quantitative methodologies (i.e., field observation, corpus analysis, experiment, and survey research). It analyses a corpus of authentic UN discourse consisting of English read speeches and the corresponding simultaneous interpretations into Chinese, given that English is the dominant language spoken by delegates and that this direction of interpretation is most common in the Chinese booth in UN meetings (as observed during my dummy booth practice and confirmed by the fieldwork described in Chapter 4). The corpus-based analysis is triangulated with the evidence from observations and interviews with interpreters at two UN conferences and a web-based survey experiment among a group that approximates the target audience of the interpretations. This multi-method design can allow

insights into simultaneous interpreters' working conditions and practices in UN meetings, their output resulting from working with the script, and users' perceived quality of interpreters' output.

Thesis structure

The theoretical part of this thesis (Chapters 1 to 2) reviews current knowledge of the subject and context that this research concentrates on. The empirical part (Chapters 3 to 7) presents the research carried out and discusses how the findings obtained contribute to the literature and what implications they have for the field of conference interpreting.

Chapter 1, dedicated to SI with text, explains SI with text as an interpreting mode, why it occurs, how it may be classified, and what makes it complex and distinct from other similar interpreting modes. There is also a discussion on how reading scripts may affect simultaneous interpreters' performance, who should judge the quality of interpretations and why, and what has been observed by previous studies regarding output in SI with text. This chapter provides the knowledge that allows a clear understanding of SI with text and explains why the quality of interpretations delivered in this working mode is worth investigating.

Chapter 2 deals with the institutional context of the UN. It first introduces the history, structure, meetings, and official languages of this organisation. Then this chapter moves on to interpreting at the UN, explaining how SI has evolved to become a dominant interpreting mode used in UN conferences, how the previous and present generations of UN interpreters have been recruited, how UN interpreters conduct their work in different language booths, and what is typical of UN speeches. This knowledge is crucial for understanding what makes the setting of UN conferences special, and why, with regard to SI with text.

Chapter 3, on the methodology of this research, presents the aim and research questions and hypotheses. In particular, this chapter describes the research approaches and the multi-method design of this research, which includes three studies (i.e., corpus analysis, field observation, and survey-based experiment), each using different research techniques and considering various perspectives on SI with text. It also outlines how these studies were implemented, including the corresponding research methodology, scope, and timeline. Chapter 3 serves as

the starting point for the detailed description of the empirical research presented in the subsequent chapters.

Chapters 4 to 6 are each devoted to one of the three studies and describe the respective research objectives, questions and methodology of each study, the findings obtained as well as their implications. Chapter 4 presents the fieldwork study in two UN conferences mainly regarding the interpreters' workplaces and conditions. The insights offered in this study can allow for an in-depth understanding of simultaneous interpreters' working environment and routine practices in UN conferences. Chapter 5 describes the corpus-based study, in which the English read speeches and the corresponding simultaneous interpretations into Chinese delivered in one of the observed conferences are analysed regarding a variety of quality features. This study can provide insights that expand current knowledge about the impact of SI with text on interpreters' output. Chapter 6 presents the web-based experimental study in which a group of experts approximating the original listeners is surveyed regarding their expectations for SI services and their perceptions of the analysed interpretations. The insights drawn from this study can reveal users' preferences regarding SI with and without text and the reasons behind their decision.

Chapter 7 is devoted to the general discussion of the research presented in this thesis. It reviews the objectives, methodology, and findings of the entire research and discusses the overall implications of this research for scholars and practitioners in the field of interpreting. The chapter also discusses the limitations of this research and closes with recommendations for future research.

Chapter 1. SI with Text

SI with text is a sub-mode of SI that entails complex cognitive operations; working in this mode may enhance interpreters' performance but also overtax their mental capacity. This chapter aims to provide a thorough explanation of this mode: it begins by describing what SI is and what cognitive activities it involves; it then introduces SI with text, differentiates this mode from other similar modes, and discusses the reasons for and categorisation and possible impacts of performing SI with text; finally, it addresses the quality of SI with text by focusing on who should judge quality, which criteria have been applied and what relevant research has been undertaken.

1.1. Interpreting in simultaneous mode

1.1.1. Definition

SI is an interpreting mode in which interpreters perceive, comprehend, render and produce a speech in another language almost at the same time (with a few seconds of delay) that the source-language speech is being delivered (Pöchhacker 2011a). Simultaneous interpreters can work between two spoken, a spoken and a signed, or two signed languages. They do not need technical devices to do signed-language interpreting, but this is rarely the case with spoken-language interpreting. In spoken-language interpreting, simultaneous interpreters usually sit inside sound-proof booths with SI equipment, listen to source-language speeches via headphones and instantaneously speak target-language speeches into a microphone. They can also (though less often) convey what is being said in the target language, without delay, through whispering in listeners' ears or speaking into portable systems (Diriker 2015).

SI can be performed in various types of communicative events occurring in conference rooms, factories, religious sites, and media houses, to mention but a few (Angelelli 2004; Downie 2016). Among these places, conference rooms are the most common for this performance to occur, so that SI is sometimes used interchangeably with the term 'conference interpreting'. According to Pöchhacker (2011b), conference interpreting means the professional interpreting service provided in either the consecutive or the simultaneous mode in a conference or

conference-like situation; SI performed in conference settings, therefore, can be termed 'conference SI'. For the purpose of this thesis, SI refers exclusively to conference SI between spoken languages using technical equipment. Or, more precisely, interpreting that is performed at a conference with several to many participants where speakers give speeches from a rostrum or from their seat, while interpreters stay in booths (usually behind participants), use SI equipment, work in a team of two or three (per booth) and regularly take turns interpreting.
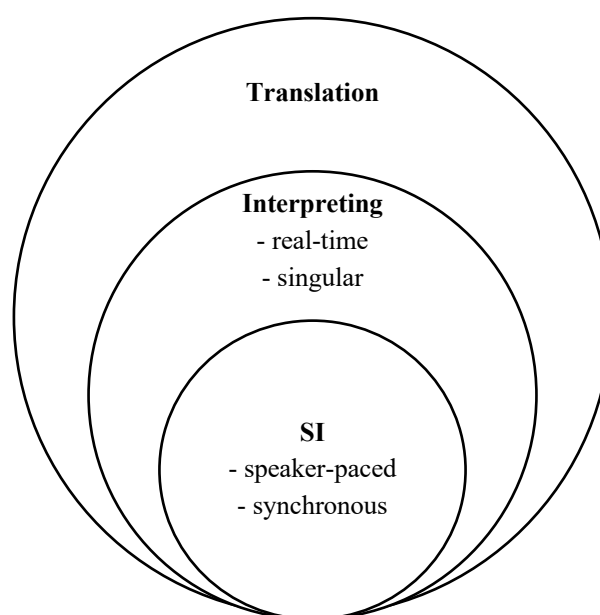
Figure 1.1. Distinctive features of SI

Building a thorough understanding of SI begins by drawing attention to the features of interpreting, of which SI is a subdivision. As shown in Figure 1.1, interpreting is a sub-category of Translation – the rendition of a message in another language – in which the capital 'T', according to Gile (2010), functions to denote all translational activities. Unlike other translation modes, interpreting is a 'live' performance and produces a first and final target-language speech, based on a one-time perception of the source-language speech (Pöchhacker 2016). In other words, different from translators who can repeatedly view source-language texts and modify translations whenever needed until they are considered final, interpreters work in real time, seldom perceive source-language speeches more than once, and are left with little room for repairs or corrections once they have uttered the initial interpretation. Next, within the category of interpreting, SI is the only mode that results in a speaker-paced simultaneous production of source-language and target-language speeches. Contrary to the performance of some interpreting modes where interpreters control their own speed of delivery (e.g., sight

interpreting), performing SI requires interpreters to speak at a speed 'controlled' by speakers in order to remain in synchrony (Chernov 1979, 2004; Pöchhacker 2011a). In light of what has been discussed, the distinctive features of SI can be summarised as the following: a real-time, speaker-paced performance in which input reception and output production are one-time and simultaneous, or, as put by Pöchhacker (1994a: 44), 'singular' and 'synchronous'.

1.1.2. SI as a situated communicative activity

As mentioned in the Introduction, SI is used to facilitate real-time communication between parties speaking different languages. However, this describes only part of the features of SI. According to Gile (1991b: 188), interpreting is 'an act of communication' that involves a two-part interaction: one from the speaker to target-language and/or source-language listeners, triggered by the intention of conveying an idea. The other goes from the interpreter to target-language listeners, for relaying the idea in a way that serves the speaker's goals. Moreover, the idea is conveyed during each action in two parallel components of speech, the 'content' and the 'package' (Gile 1991b: 194); the former refers to the information conveyed, and the latter refers to the linguistic and paralinguistic features (e.g., speakers' delivery, style and tone of voice). The two components are inseparable for achieving the aim of speech in interaction, and either can strengthen or weaken the effect of the other and ultimately influence the communication outcome. For instance, good content with poor delivery (e.g., monotony, strong accents, and unclear pronunciation) in a speech may impede listening comprehension, whereas a pleasant delivery can facilitate listening comprehension and reinforce the impact of the speech (see Collados Aís 1998; Kurz 2008; Lin et al. 2013; McAllister 2000; Sabatini 2000).

SI is not only a communicative activity but also a situated activity, as it is performed and grounded in a specific context and environment where discourse occurs. According to Diriker (2004), interpreting conducted in a professional manner cannot be done in vacuum. Rather, it is a situated practice that is bound up with the broader social context in which interpreters act as professionals, with the conference setting where interpreters work on a regular basis, and with the immediate situation in which an interpreting activity is taking place. When producing interpretations, interpreters adapt their performance to the specific discursive event as well as to the context, setting, and situation that frame it, because each communicative event is characterised by its subjects, styles and objectives and by the social identities of and relations

between participants, to name just a few. For example, interpreters performing SI in technical meetings may work with slides, handouts, and charts which are often used by speakers as visual aids in presentations, whereas this is usually not the case in debating forum (see Pöchhacker 1994). Interpreters working in a courtroom situation provide interpretations that transfer not only what is being said but also how the speaker says it (even including hesitations, redundancy, etc.); in contrast, interpreters working in a conference setting focus more on rendering the content of a speech than on conveying its delivery style (Diriker 2004). In parallel, interpreters' performance is influenced by the situational factors involved in the event, such as working conditions, the availability of resources, and familiarity with the conference theme. For instance, working in a poorly ventilated booth can make interpreters suffer from discomfort (e.g., fatigue, headache, and poor concentration) and consequently hinder their performance, regardless of how competent they may be. Giving interpreters the relevant material in advance helps them prepare effectively for the interpreting assignment; with such preparation, interpreters are more likely to provide quality interpretations compared than without.

To summarise, SI is a situated communicative activity because interpreters' performance is associated with not only the speech production/reception of the speaker and the listeners with whom they are interacting, but also with the circumstances and the environment in which they are providing their communication-enabling service.

1.1.3. Multitasking performance

To succeed in performing SI, interpreters need to divide their attention between multiple concurrent tasks and to pay a right amount of attention to the right task at the right time for maintaining a good balance throughout the performance.

Simultaneous interpreters multitask because performing SI comprises multiple – more than two – concurrent activities, including perceiving, transforming, and transmitting speakers' messages (Lederer 1981; Pöchhacker 2011a; Russo 2010). When source-language information is presented continuously, simultaneous interpreters divide their attention to deal with more than one task at a time. They may hear, comprehend, and formulate in the target language the next segment of information while uttering the rendition of the current one, or listen to the current segment whilst working on the previous one. Meanwhile, they may be anticipating what

the speaker is going to express, checking what they have just said and repairing what they think has been erroneously or inappropriately rendered (Gerver 1976; Kirchhoff 2002).

Since the 1960s, when simultaneous interpreters' multitasking performance became a marvel among the public and aroused the interest of researchers (e.g., psychologists, linguists, and interpreters), a few models have been created to understand how simultaneous interpreters handle in parallel a series of information-processing operations in their brains. The earliest model, designed by Gerver (1975), is a flow chart explaining the mental twists and turns which simultaneous interpreters undertake to perform SI. To display the cognitive activities involved in SI and their sequence, this model describes the process from interpreters' receiving input to translating input into output, to examining the correspondence between input and output, and finally to producing output. Although criticised for overlooking other SI-related cognitive activities like anticipating, Gerver's model, for the first time, revealed graphically how simultaneous interpreters multitask and explained why multitasking is complex. Moser's (1978) model, mainly inspired by the work of Massaro (1975), presents the way simultaneous interpreters process information in greater cognitive detail: they perceive input and produce output through analysing source and target languages in terms of phonological, syntactic, semantic, and contextual aspects. This model also highlights several decision points and feedback loops showing that while performing SI, interpreters need to monitor both source-language and target-language messages and to make modifications when necessary. The model created by Lederer (1981) summarises eight SI-related cognitive procedures, namely listening, comprehending, conceptualising, memorising, situational learning, self-monitoring, transcoding, and speaking. It also points out that some (e.g., listening, comprehending, conceptualising, and speaking) overlap with one another just as interpreters process input and output simultaneously. Setton's (1999) model presents simultaneous interpreters' multitasking (reception, mental representation, and reformulation) in situational and psychological dimensions. This model considers a set of pragmatic circumstances which interpreters may (or will) encounter in real-life practice. For instance, during input reception, interpreters perceive not just speeches but other perceptual input such as speakers' gestural cues and their own utterances; during information storage, interpreters activate their memory for linguistic, situational, and encyclopaedic knowledge; and through the entire output production process, interpreters monitor their utterances continuously.

However, simultaneous interpreters also take risks while multitasking. The Effort Model of SI, developed since the early 1980s by Gile (2009), uses a set of formulas to explain the related risk. This model divides simultaneous interpreters' multitasking performance into four different efforts: listening and analysis, speech production, short-term memory, and coordination. These efforts compete with one another because performing SI necessitates activating (several or all of) them concurrently whereas activating each requires interpreters' processing capacity (or in other words, cognitive resources), which has a limit. More importantly, this model sends a clear message: to succeed in performing SI, interpreters must devote an adequate amount – equal to at least the minimum required – of processing capacity to the overall efforts and to each active effort at the right time; otherwise, interpreters would encounter interpreting difficulties. Yet in practice, interpreters cannot easily prevent such difficulties because, according to Gile's (1999a) so-called 'Tightrope Hypothesis', they often run out of available processing capacity and work at the level of cognitive 'saturation'.

In summary, simultaneous interpreters are continuously engaged in multitasking but meanwhile take the risk of performance failures caused by the constraint on mental capacity and mismanagement of attention division and distribution. In this case, if interpreters simultaneously work with supplementary texts, will they maintain a good balance throughout the performance?

1.2. SI with text – a complex mode

1.2.1. Definition

SI with text is a sub-form of SI in which interpreters have access to both the source-language speech being read and the speech script available to them (Pöchhacker 2016; Seeber 2015, 2017a; Setton 2015). The notion of 'text' is defined as a communicative occurrence or event in any mode of expression (see Beaugrande and Dressler 1981). When used in reference to SI with text, however, the term 'text' is commonly understood primarily as speech script.

Since it involves the reading of text in receiving input, the mode of SI with text is taken as a (sub-)form of sight interpreting or sight translation by some scholars (e.g., Alekseeva 2001; Chernov 1978; Lambert 2004; Li 2014; Sampaio 2014; Seleskovitch 1978; Viezzi 1989). In

the interest of conceptual clarity, however, it is necessary to understand the distinctive features of SI with text.
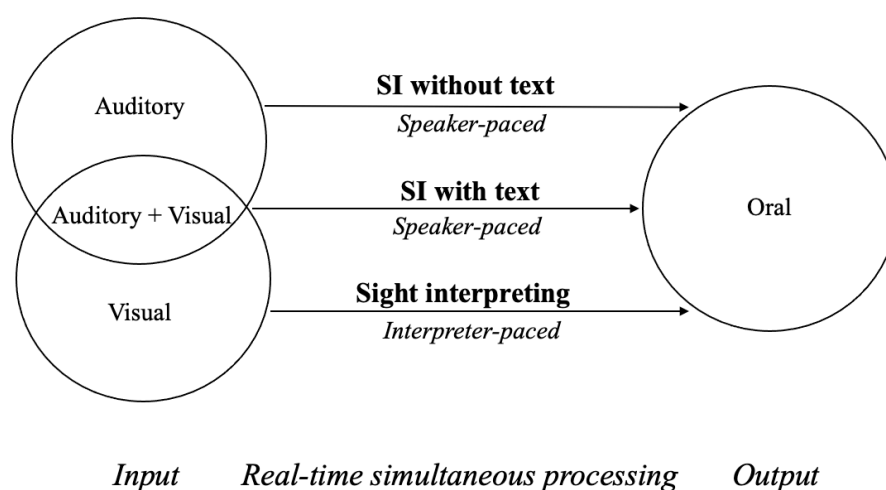
Figure 1.2. Spoken-language simultaneous interpreting modes

Figure 1.2 differentiates the pace of delivery and forms of input and output in SI with text from those in two other interpreting modes: SI without text and sight interpreting. As can be seen, interpreters listen to input and utter output at a speed set by speakers during SI without text, and view input and instantly utter output at a self-controlled speed during sight interpreting. However, when interpreters perform SI with text, they receive both auditory and visual input and produce oral output in synchrony with speakers' utterance speed (Gile 2002; Pöchhacker 2016; Salevsky 1982; Seeber 2010, 2017a; Setton 2015). Moreover, despite focusing on two types of input at once, interpreters are recommended to view auditory input as the primary source of information and prioritise the analysis of what they hear, not what they see (Setton 2006, 2015). In a nutshell, SI with text possesses three distinctive features: speaker-paced production, synchronous target-language delivery, and dual input, of which auditory input is the priority.

1.2.2. Why do speakers read?

One relevant aspect of SI with text is why speakers read a text and interpreters work with the written text. The following are the main reasons behind this phenomenon.

First, many speakers depend on texts. International conferences gather participants speaking different languages, but formal communication – including SI services – is available only in a limited number of languages (usually the so-called major global languages, among which English prevails). When taking the floor, those who feel less confident about their language and improvisation skills speak not spontaneously but from written texts (in hard copy or electronic format displayed on mobile devices). Speakers can get used to reading aloud, and if continuing to do so, they may use spontaneous speech less and less and gradually lose their impromptu speaking skills. Consequently, they end up giving more and more read-out speeches, in which case they are encouraged to provide interpreters with a script beforehand.

The second reason is the insufficient time allotted to a speech. To meet time and budget restrictions, conference organisers usually compress the conference schedule to the maximum possible extent, but this creates a problem: speakers have limited time – less than what they expect or had originally been told. When facing time pressure, most speakers do not condense content or improvise speeches (which otherwise would be time-consuming). Instead, they resort to speaking from a prepared text that is packed with information and increasing their speed of delivery.

Third, speakers are highly cautious about their remarks. Participants in political and diplomatic conferences are national delegates or regional special envoys who do not speak on their behalf but on behalf of authorities. While addressing the floor, seldom do they ad-lib a speech or recite one from memory; rather, they read aloud a text that has been written and revised carefully, even down to the grammar and spelling of words (Baigorri-Jalón 2004). They also often provide a copy of the text beforehand, which enables interpreters to familiarise themselves with the speech and to work with it. Occasionally, speakers even have the text pre-translated and suggest that interpreters read out the translation, however inappropriate the translation may be, to ensure the absolute consistency of speech content and desired style across the whole 'interpretation'.

Finally, some conferences call for a prior submission of statements. Important formal conferences sometimes request speakers to hand in copies of their speech, if only for documentation, translation, and interpretation purposes. This phenomenon is especially common at UN meetings (see Chapter 2), where speakers are encouraged, or sometimes urged, to submit a copy of their statement in writing ahead of time, ideally in time for sharing it

internally with interpreters, translators, reporters, and others. Normally, speakers will respond to the call and permit sharing the text if it does not contain classified or sensitive information, and when speakers are reading it aloud during conferences, interpreters can therefore perform SI with text.

1.2.3. Categorisation

The different manifestations of SI with text are not a frequently addressed topic, perhaps given the complexity of the way texts appear and are used during speeches. In fact, few studies have sought to categorise SI with text, and those which have tried have considered one factor or ignored another. For example, the study by Cammoun et al. (2009) categorises SI with text based purely on when interpreters receive texts. According to these authors, SI with text can be performed in 'ideal', 'normal', 'rush' and 'crisis' situations, where interpreters receive texts long before (weeks/days/hours), shortly before (15-30 minutes), just before (less than 15 minutes) and after speakers have started the speech, respectively.

Nevertheless, such a distinction is insufficient because categorising SI with text depends on a number of factors, other than the arrival time of the text alone. As put by Setton and Motta (2007), in the performance of SI with text, the text sent to interpreters may be handwritten or printed, it may be read at varying speeds and its content may not always be consistent with speakers' utterances. Considering this point and my personal experience with performing SI with text, a categorisation is proposed, covering four commonly seen factors (see Figure 1.3).
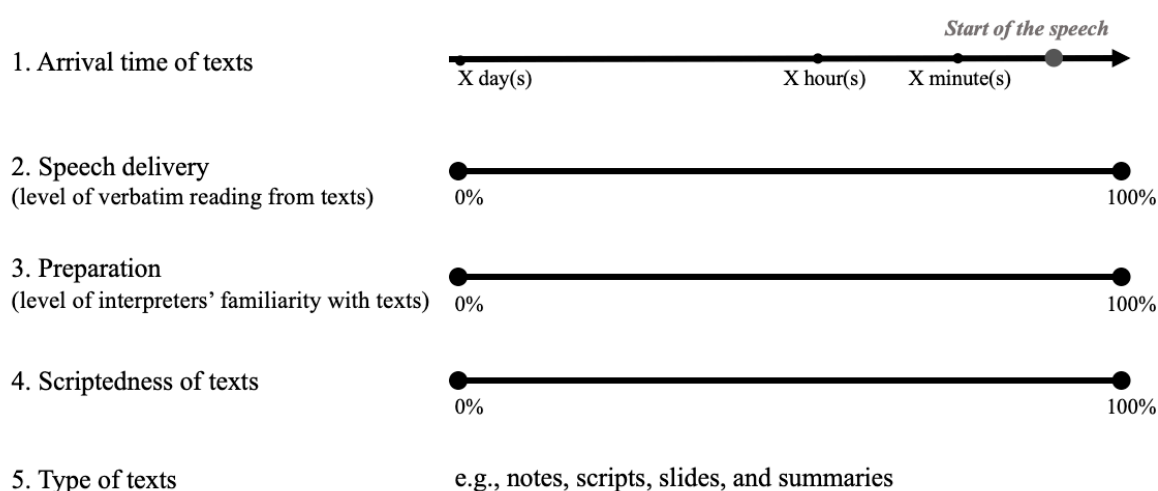
Figure 1.3. Categorisation of SI with text

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Specifically, the first factor concerns the period between when texts arrive and when speeches begin: texts can be sent to interpreters long before (e.g., several days), shortly before (e.g., several minutes) or at the same time as the speech unfolds;[1] they may also, though much less often, arrive late, after speakers have already uttered some words or sentences (but still not finished their speech). The second factor is relevant to the way speakers use text during the speech: texts can be read completely verbatim (word-for-word, exactly as written), mostly verbatim (with slight modifications), partially verbatim (i.e., speakers refer to texts sometimes, but not always) or, though less frequently, not verbatim. Another factor is associated with how much of the speech content is written out in texts; for example, texts can be notes, summaries, presentation slides or speech scripts. The last factor focuses on the level of interpreters' preparation of (or familiarity with) texts: when they start interpreting, interpreters may not have read the text (zero preparation), may have skimmed it (partial preparation), or may have read it carefully and/or taken notes or even translated the text in the target language (full preparation).

In addition, beyond these four factors, there are other factors contributing to the variation in the occurrence of SI with text. For instance, texts can be hard copies, electronic copies or both; typed or handwritten (which is very seldom though); and they may be written in the source language, the target language, in both, or (though rarely) in another language.[2] Having said that, for the purpose of this thesis, 'SI with text' does not cover the full range of its possible manifestations; rather, it is used in a narrower sense, referring only to SI with a speech script that is being read aloud by the speaker and made available in the booth.

In short, categorising SI with text requires taking account of numerous factors (such as the ones listed), and different combinations of them lead to various situations of performing SI with text. Nonetheless, this is not the sole complexity inherent in SI with text. Rather, perhaps the crucial type of complexity is the interplay of the cognitive components of SI with text.

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[1] In some special cases (e.g., highly confidential meetings), interpreters will not receive texts until the moment speakers are delivering speeches.

[2] For example, UN Chinese interpreters who work between English and Chinese (see Chapter 2) sometimes receive pre-translated texts in Spanish, Russian, French or Arabic.

1.2.4. Cognitive complexity

Reading is one element that is associated with the cognitive complexity of SI with text. First, reading forces interpreters to perceive and process a compound of various visual inputs simultaneously. In Seeber's cognitive resource footprint for SI with text (see Figure 1.4), the visual input of SI with text is divided into visual-verbal and visual-spatial modalities (provided interpreters can fully view the speaker and the text of his or her oral discourses). As the names imply, the former modality refers to information visible as words, and the latter modality to information contained in, for example, posture, gestures, and images. Two implications can be drawn from this footprint: 1) the visual input of SI with text comprises all sorts of readable sources and thus should not be thought of as scripts alone; and 2) even just one readable source can contain different modalities of visual input (as is the case with presentation slides consisting of words and charts).
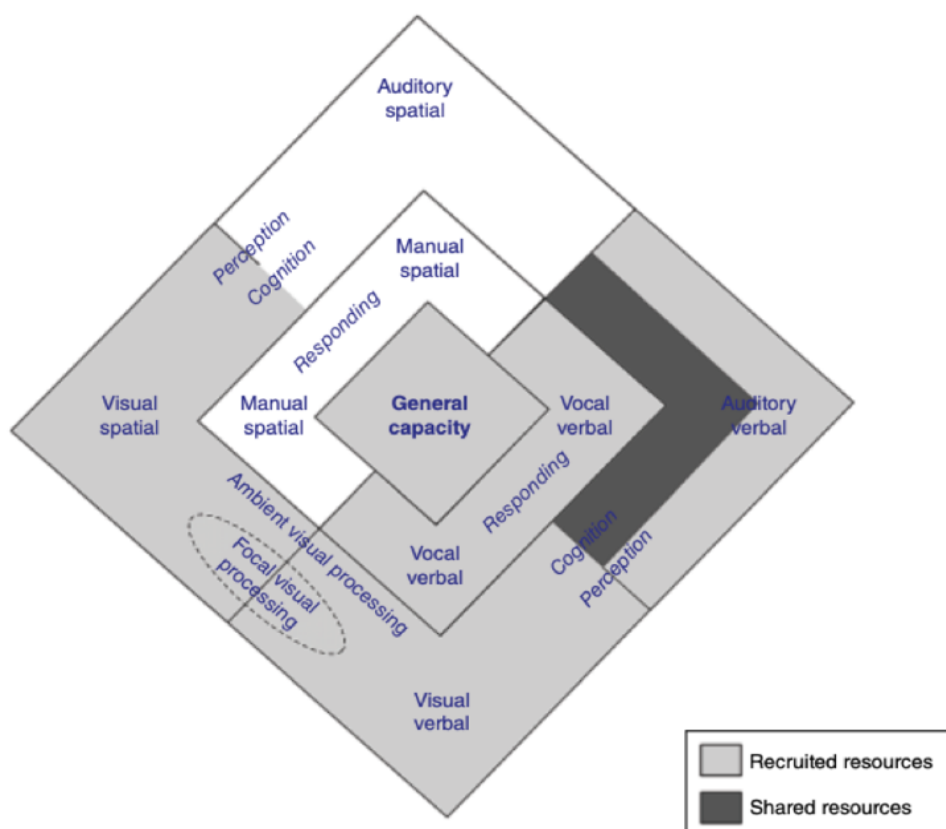
Figure 1.4. Cognitive resource footprint for SI with text by Seeber (2017a, cf. 2007)

Second, reading complicates the deployment and coordination of interpreters' cognitive operations. According to Gile's (2009) Effort Model for SI with text, not only is reading an

extra effort – as important and competitive as the others, but it also affects the demands on processing capacity allocated to overall and individual efforts. Interpreters must either use additional processing capacity or, if the total available capacity is saturated, allot a part of what is spent on the other efforts to dealing with visual input. Meanwhile, the presence of visual input changes the demands on processing capacity of the other efforts. The variation, caused by reading, in the demands on processing capacity of memory is a case in point: the demands may decrease because interpreters, with information in front of them, need not memorise it; but they may increase because interpreters pre-read and pre-render a segment of information, and until speakers utter it aloud, they must keep remembering the rendition (Agrifoglio 2004; Gile 2009; Kumcu 2011). Nevertheless, whichever approach interpreters take and whatever variation exists in the requirement of processing capacity of the other efforts, reading increases the possibility of cognitive overload, complicates the management of cognitive components and, most importantly, alters the cognitive supply-demand balance to which interpreters are accustomed. When these hazards occur, would reading eventually affect interpreters' performance?

1.2.5. Reading: help and hindrance to performance

Whether reading improves or impairs simultaneous interpreters' performance remains controversial. Some hold that reading enhances interpreters' performance because it offers manifold benefits to their comprehension. First, reading allows interpreters to view speech content, thus alleviating the cognitive load which otherwise would be borne by hearing, anticipating, and memorising. The second advantage is that reading helps interpreters avoid mishearing if auditory input is defective or, more precisely, affected by sound ambiguities such as unfamiliar accents, unclear pronunciation, ambient noise, and the noise generated by electronic devices (Cammoun et al. 2009; Gile 2009; Seeber 2017a). Third, reading facilitates accurate renditions, especially when interpreters handle detailed information (e.g., numbers, foreign names, proper nouns, locations, and time). Finally, if interpreters receive texts before a speech begins, reading enables them to study in advance the speech (e.g., the gist, intent, contexts, key points, and technical terms) and who the speaker and audience are. With such cues, even if the speaker alters the text or deviates to some extent, interpreters can still correctly anticipate, predict what the speaker intends to say.

On the other hand, some believe that reading hinders interpreters' performance because it creates cognitive obstacles. The first and most obvious obstacle is cognitive overload. Interpreters work at (or close to) saturation when they perform SI, so reading – an extra effort – can overtax their mental capacity and provoke performance deterioration (Gile 2009). Another obstacle is distraction, which is seen in two closely related phenomena. One is that those who are inexperienced in performing SI with text have a tendency to interpret every word they see, even at a cost to their delivery speed. Yet when this happens, they are likely to lose synchrony. Worse still, once they fall behind and strive to catch up with speakers, the processing capacity allotted to the other efforts (including reading) can be insufficient and consequently lead to interpreting failures (Agrifoglio 2004; Gile 2009, 2002; Lamberger-Felber and Schneider 2008; Setton 2015). The other phenomenon is that interpreters inappropriately concentrate on texts as the primary – or even sole – source of input. By doing this, interpreters may fail to notice the moment when speakers, for example, start improvising, repeating or correcting themselves, or skipping or changing the order of sentences, paragraphs, or sections; rather, they continue processing what is written and begin producing inconsistent interpretations (Gile 2009; Pyoun 2015; Setton 2015; Weber 1990).

The third obstacle is linguistic interference.[3] Reading may impede interpreters' de-verbalising (or in other words, meaning-based processing) and cause inappropriate renditions. When seeing the source language in front of them, interpreters (especially when inexperienced) are likely to retain in the target-language speech the original linguistic structure (e.g., syntax and collocations). Consequently, they produce interpretations that may sound neither natural nor comprehensible to target-language listeners, especially when the two languages are strikingly different (Agrifoglio 2004; Brady 1989; Lambert 1988; Viezzi 1990). The last obstacle is linguistic complexity. Reading is a very demanding task because it involves handling written-language information which, as compared to spoken-language information, often has a more condensed and complex structure (Déjean le Féal 1982; Halliday 1985; Kopczyński 1982). Given interpreters' cognitive constraints, with more effort being put into reading, the risk of reduced effort devoted to listening, memory and production grows, and so does the likelihood of performance failures (Gile 2002, 2009; Seleskovitch 1978; Setton 2015).

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[3] Source-language interference means that the verbal and/or visual cue(s) of the source language affect(s) the translation's linguistic structure and make(s) it a deviation from the target-language norm (Lamberger-Felber and Schneider 2008). Simply put, it is a form of the target-language speech being contaminated with a source-language element (Pöchhacker 1994b).

Only a few researchers have conducted empirical studies to investigate the effect of reading texts on SI performance. Sampaio (2014) reported the collective result of four survey studies conducted mainly from a pedagogical perspective on sight translation, of which SI with text was considered a sub-form. These studies analysed several students' sight translations and explored how students, teachers and practitioners perceived sight translation, its complexities and challenges to a professional career. According to the findings, SI with text was regarded by practitioners as the most common variety of sight translation and as a frequently performed interpreting mode; yet working in this mode was perceived to be exceptionally challenging, especially when practitioners kept pace with speakers. Also, SI with text was viewed by students as difficult, because when working in this mode they focused on the structure of the text, rather than on meaning, and consequently provide inadequate word-for-word renditions. Furthermore, students allotted their limited processing capacity to the reading effort at the cost of the production effort, and their delivery of interpretations had irregular rhythm, hesitation phenomena, and poor fluidity. Therefore, two inferences were made: first, the performance of SI with text prevailed in interpreters' work; second, working with the text during SI overburdened student interpreters' mental capacity.

To explore whether working with text could hinder SI performance, Cammoun et al. (2009) conducted a study comprising individual interviews, questionnaires, and email enquiries. They investigated several interpreting institutions' approaches to teaching SI with text, and professional interpreters' opinions on the pros and cons of performing SI with text and strategies for handling texts in different time-related scenarios (see Subsection 1.2.3). Although conducted from a pedagogical point of view, this study drew conclusions from practitioners' feedback on the effect of reading texts. For example, texts became an extra burden for interpreters when they had little or no time to read them, and yet were useful for anticipating what the speaker might say, understanding the context, coping with accelerated speed and unclear auditory input, and improving the accuracy of interpretations.

Besides the above, a few more empirical studies have addressed the impact of reading texts on SI performance (especially SI output) which will be covered later in this chapter. Yet regardless of the mentioned and to-be-discussed studies, whether reading texts improves or impairs SI performance is still to be settled.

1.3. Quality of SI with text

Speakers rely on interpreters to convey their messages faithfully to target-language listeners and share texts with interpreters in the hope of helping them comprehend and interpret better. Yet, reading texts may not only improve but also hinder SI performance. Investigating this impact requires judging the quality of the product, or 'output quality', of SI with text.

1.3.1. Criteria

'What criteria are valued for judging SI quality?' This question has not yet received a consensual answer in the field. Nevertheless, it has been explored by many scholars interested in knowing what interpreters and users expect in terms of quality interpretations. For example, Bühler (1986), Chiaro and Nocella (2004), Ng (1992) and Zwischenberger (2010, 2013) conducted surveys among interpreters; and Collados Aís (1998), García Becerra (2015a), Gile (1990b), Kopczyński (1994), Kurz (1989), Mack and Cattaruzza (1995), Moser (1995), Pradas Macías (2003) and Vuorikoski (1993) did so with users. Several early studies will be presented here in more detail, as they centred on this question.

Bühler (1986) conducted the earliest survey on interpreters' views about evaluating the quality of conference interpreting. The survey was targeted at members of the International Association of Conference Interpreters (AIIC) including those of the Committee for Admission and Language Classification (CACL). In the survey, Bühler listed 16 linguistic and extra-linguistic criteria, used by AIIC for admitting members, which could be rated from 'highly important' to 'irrelevant' (see Table 1.1). One of the clearest findings was that 'sense consistency with original message', 'logical cohesion of utterance' and 'use of correct terminology' were top-rated (as 'highly important') by all the respondents, while 'native accent' and 'pleasant voice' were rated highly by CACL members. This finding suggested the essential criteria for AIIC candidates and demonstrated how fundamental sense consistency, logical cohesion and terminological correctness were to quality interpretations from the (professional) interpreter perspective. However, Bühler did not distinguish in the survey between SI and consecutive interpreting.

Table 1.1. Quality criteria used by Bühler (1986)

Linguistic	Extra-linguistic
native accent	pleasant voice
fluency of delivery	thorough preparation of conference documents
logical cohesion of utterance	endurance
sense consistency with original message	poise
completeness of interpretation	pleasant appearance
correct grammatical usage	reliability
use of correct terminology	ability to work in a team
use of appropriate style	positive feedback from delegates

To verify Bühler's (1986) assumption that the AIIC standard reflected users' expectations of quality interpretations, Kurz (1989, 1993) surveyed the participants of three conferences (one by engineers, one by medical doctors and another by political delegates) on their views about the importance of eight of Bühler's criteria (mostly linguistic output-related). She found that the participants indeed attributed a high level of importance to those which were considered essential by AIIC members, but that they did not appear to value greatly Bühler's (1986: 233) so-called 'superficial criteria' such as accent, voice, grammar, and fluency. Additionally, Kurz discovered some differences among the three groups of participants' expectations of several criteria. For example, the medical doctors attributed greater weight to logical cohesion than the engineers and political delegates. The political delegates considered correct terminology most important whereas the engineers and medical doctors chose sense consistency as the most important criterion. These differences indicated that various groups of users did not necessarily agree on what constituted a quality interpretation. Kurz's survey is quite enlightening about the necessity and significance of taking users' opinions into account and aiming for a specific group of users in evaluating interpreting quality. On the other hand, her survey was conducted on-site, which may have influenced the participants' responses. If Kurz aimed to gain the participants' views on SI in general instead of specific SI performances, this limitation could be addressed through de-contextualisation, namely having the participants fill the survey at a place other than the premises for interpreted events.

Similarly, Collados Aís (1998) and her team (Collados Aís et. al 2007), in their research on user expectations, surveyed a group of legal experts about their rating of ten quality criteria, of which most were adopted from Bühler's (1986) study (also mainly linguistic-output related), and several were added (e.g., diction and intonation). Then, the group's rating was checked against their perceptions of simultaneous interpretations manipulated regarding some of these criteria. The findings for the group's rating confirmed the sequence of importance established

in the initial study by Kurz (1989); that is, sense consistency and logical cohesion as the most important criteria, followed by fluency, completeness, and correct terminology on a second tier, and paralinguistic features like intonation, native accent, and pleasant voice at the bottom. The findings for the group's perceptions showed that some criteria (e.g., fluency and intonation), rated as least important or not so important, had a significance influence on the group's actual judgment. This suggested that the expectations of users did not necessarily correspond to their assessment or to the relative importance they attach to various criteria. Also, Collados Aís pioneered in the use of a survey-based experiment to investigate quality expectations and assessment. Yet her research was conducted in a tightly controlled environment, where the assessed interpretations were the same except for the independent variables. Since this is hardly the case in real-life situations, ecological validity concerns may apply to the research.

Zwischenberger (2010, 2013) conducted a web-based survey with the entire population of AIIC and of the German Association of Conference Interpreters (VKD) about their rating of the importance of eleven quality criteria for a simultaneous interpretation. These criteria were divided into three types: content-, form-, and delivery-related. Nine of them were adopted from Bühler's (1986) criteria (also mostly linguistic-output related) and two were synchronicity and lively intonation. Zwischenberger also replicated Collados Aís's (1998) approach by embedding the experimental audio sample of SI in the survey and eliciting the interpreters' perceptions of it. She found that AIIC members and VKD members both viewed sense consistency and logical cohesion as the most important criteria, which is in line with Bühler's (1986) finding. Additionally, the two groups, despite attributing different levels of importance to individual criteria, gave preferences for the content-related criteria (i.e., completeness, sense consistency, and logical cohesion) over the form- and delivery-related ones (i.e., correct grammar, correct terminology, appropriate style, native accent, fluency of delivery, pleasant voice, synchronicity, and lively intonation). Furthermore, the findings showed that the groups' perceptions of quality were heavily impacted by the criteria that were not rated at the top (e.g., lively intonation). Zwischenberger's survey was among the first in the field to approach a very large number of respondents with the use of online questionnaires. However, the interpreters developed their perceptions based solely on listening to the interpretation, without checking it against the original speech or the corresponding transcript; consequently, uncertainty about the source-target correspondence may have influenced their responses.

Overall, these studies have not only inspired continuous exploration of the judgment criteria adopted by interpreters and users, but also shed light on the necessity of targeting a specific group or population to collect views and checking their abstract standard of quality against their actual judgment.

1.3.2. Perspectives of judgment

'Who should judge SI quality?' This is another question that has been the subject of debate among scholars in the field, and the main argument has been related to the following perspectives.

1.3.2.1. Speakers

The judgment of SI quality by speakers has been considered in the work of several scholars who conducted surveys, interviews, and observations in investigating interpreting events and interpreters' output (e.g., Diriker 2004; Downie 2016; Kopczyński 1994; Pöchhacker 1992). Yet speakers may not be most suitable for deciding whether an interpretation is good or not. Speakers convey source-language messages and seldom use SI services or understand the target language, which makes them appear unsuitable for judging the quality of SI. Moreover, even if speakers make a judgment, they often rely on user reactions and choose the degree of user satisfaction as the sole indicator: when users are satisfied with the interpretation provided, without doubt or complaint, speakers approve of its quality (or vice versa). Yet, user reactions may be unreliable, as will be explained in Subsection 1.3.2.3.

1.3.2.2. Interpreters

Having (professional) interpreters judge SI quality is considered a norm in professional practice. Interpreters, as providers of SI services, work between speakers and listeners. They are not only aware of speakers' intent and interpreters' techniques, but capable of determining whether an interpretation is faithful to the meaning and style of the original speech. Nonetheless, like various individuals and groups of users expressing a variance in judgment, different groups of interpreters may develop dissimilar standards of what makes quality SI services, and individual interpreters (or sub-groups) of the same group may attribute varying degrees of importance to

the same criterion. As already discussed, Bühler (1986) observed that CACL members rated, for instance, 'completeness of interpretation' far lower than did those of the AIIC. Zwischenberger (2010, 2013), who conducted a full-population survey on the same topic, found that AIIC members attached much greater significance to form- and delivery-related criteria than did those of the VKD.

1.3.2.3. Users

'The feedback of users, who are the ultimate recipients of SI services, is vital to judging SI quality' – this opinion is shared among many scholars in the field (e.g., Dejean le Féal 1990; Kurz 1993, 2001; Lederer 1981; Mack and Cattaruzza 1995; Seleskovitch 1986, 1982; Seleskovitch and Lederer 1989; Snelling 1989). SI is a service, after all, and is provided in the interest of those who rely on it for effective communication, including users. Users are the ones listening to SI attentively. Other conference participants, such as speakers, technicians, organisers, and non-target-language audiences, scarcely use SI or understand what interpreters are saying in the target language. For these reasons, users ought to have a voice in deciding whether the SI service they receive has fulfilled their needs. Users' opinions, expectations and requirements of SI are so significant that they should not be ignored in judging SI quality.

However, this raises two issues. First, as already discussed, users' judgment can be one-sided because it is heavily – or solely – determined by how users perceive superficial factors. In other words, users cannot judge properly owing to the lack of required skills. The quality of SI comprises numerous factors related to its linguistic and communicative effects, but users cannot precisely perceive each factor due to their lack of source-language knowledge. Particularly, they are incapable of judging sense consistency, which requires the comparison between source-language and target-language speeches (Bühler 1986; Ng 1992; Viezzi 1996). Even if some users have sufficient knowledge of the source language and compare between the original and the interpretation (as was found by Vuorikoski (1993)), they can hardly monitor the entire interpretation and identify errors as meticulously and accurately as professional interpreters could. Rather, they usually attend to one or several segment(s), disregard the rest and form a conclusion about the overall quality (Gile 1991b). Users may also mistakenly regard it as an error if a chunk of information is deliberately omitted by interpreters as an interpreting strategy. Moreover, users' judgment is found to be grounded in their perceptions of some

superficial factors of SI. For example, García Becerra (2015b) reported that users evaluated the same interpretations differently according to the order of presentation. Collados Aís (2002) and Holub (2010) observed that users preferred one interpretation with a livelier intonation over the other, even though the two were the same in other aspects. Pradas Macías (2003, 2006) and Rennert (2010) found that users perceived one interpretation, with a better fluency, as higher quality compared to the other being identical in other aspects.

The second issue is that, like interpreters, users of different groups and within one group do not necessarily share the same (or similar) standards of quality. Owing to individual interests and communication styles, different user groups have various perceptions and demands for SI services (Gile 1999b; Gold 1973; Herbert 1952; Kurz 2001; Snelling 1989). As demonstrated by the work of Kurz (1993) and Vuorikoski (1995, 1998) on users' expectations of SI, discrepancies emerge between separate user groups in their views about quality: some attribute a higher or lower degree of significance to certain factors than do others. By the same token, users belonging to the same group may not agree on what makes an interpretation acceptable, so neither will they use the same yardstick to gauge the level of acceptability of SI (Gile 1999b; Kahane 2000). This discrepancy can be inferred from Vuorikoski's (1995) study, showing that the listeners at one seminar did not share the same expectations of SI and, therefore, weighed the same quality feature differently.

Having said all this, users are the ultimate recipients of SI services and in judging SI quality their responses should therefore not only be considered but prioritised. Yet given the possibility of their misjudging the correspondence of interpretations to the original, various perspectives should be combined and compared in order to make a reliable judgment. Furthermore, to reduce inconsistency in quality perceptions caused by inter- and intra-group variability, the users who make a judgment should be those to whom SI is addressed.

1.3.3. Quality in SI with text

As discussed in Subsection 1.2.5, one way to identify the impact of SI with text on interpreters' performance is to judge the quality of interpretations. Essentially, judging the quality of SI with text is similar to judging that of any interpreting performance: it requires analysing interpreters' output based on certain criteria, linguistic, extra-linguistic or both, and from the perspectives

of certain groups, be they users, interpreters or others. Some of this has been undertaken in the studies summarised below (mainly in chronological order).

In an experimental study on SI for read-out speeches, Lamberger-Felber (2001, 2003) analysed 36 interpretations of read-out speeches[4] by a dozen experienced interpreters working from English into German in three different modes: SI with text – with and without preparation, and SI without text. The analysis considered several quality criteria such as synchrony, semantic correctness, and completeness (indicated by time lag, errors, and omissions respectively). It also included assessing the accuracy of the rendition of numbers and proper names. One relatively clear finding was that performing SI with text, either with or without time for preparation, resulted in considerably fewer incorrectly rendered numbers and proper names than did SI without text. As regards the semantic correctness and completeness of the interpretations, the findings neither confirmed nor disproved the hypothesis that working with text could improve interpreters' output. This may be attributed to the evaluation method; that is, an error or omission consisting of more than three words of the original speech were counted double. However, this method could not accurately reflect the level of semantic deviation, because errors and omissions should be assessed based on the extent of their non-correspondence with the original speech rather than the number of interpreted words. Furthermore, Lamberger-Felber acknowledged that her findings might be skewed by variability in the interpreters' competence and their perceptions of speech difficulty, so that the design of the study left unclear whether the presence of text alone affected SI performance.

In a follow-up study, Lamberger-Felber and Schneider (2008) used the same material to investigate linguistic interference in SI with text. They tested two hypotheses: 1) owing to dual input in SI with text, source-language interference occurs more often in interpreters' output when they work with text (for read speeches) than when they do not, and 2) source-language interference occurs less often in interpreters' output when they have time to prepare for SI with text than when they do not. In the study, the authors examined the three dozen interpretations with regard to a number of aspects, including the semantic correctness, completeness and synchrony of the interpretation, and various types of interference (e.g., lexical, phonological and morphosyntactic). Due to the methodological shortcomings mentioned above, the findings

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[4] The original speeches were recorded at a real conference by Pöchhacker (1992), who described them as very similar.

were not fully in line with the first hypothesis and provided evidence against the second. Further, the findings did not clearly indicate the correlation between linguistic interference in SI with text and the quality of the interpretations.

Coverlizza (2004) conducted an experiment comparing ten student interpreters' performances of SI with text, with 10 minutes for preparation, and SI without text into Italian. She used two read source speeches that exhibited similarities in terms of content, style and terminology, and were drawn from the EU context and recorded by a native (English) speaker at a speed of 110-115 wpm. The comparison was made based on the transcripts of the interpretations, which were annotated for the occurrence of silent pauses (perceived, but not measured), acceleration of delivery speed, and rising and falling pitch in the interpreters' speech. During the comparison, Coverlizza not only focused on the accuracy and completeness of the interpretations, but also investigated whether the interpreters correctly rendered the numbers, adjectives, enumerations, and anecdotes mentioned in the original speeches. She found that using the text during SI improved the precision of the student interpreters' output by helping them render adjectives, numbers, enumerations, and anecdotes more accurately, and yet SI with text yielded more pauses and omissions in the output when the speaker's utterances deviated from the speech script. These findings provided insights into the combined adverse and beneficial effects of working with text on simultaneous interpreters' output. Nonetheless, their experimental nature requires confirmation by additional research conducted with professional interpreters working in a genuine conference setting, where speeches are not necessarily delivered at an 'interpreter-friendly' speed. Furthermore, Coverlizza's study was limited by three main factors. The first was that delivery-related features such as pauses and intonation were not measured but assessed purely through listening. Second, the comparative analysis was not sufficiently transparent: for example, it was unclear how the omissions and inaccurate renditions were identified and which evaluation criteria were used. Third, the assessment of the interpretations focused solely on certain features related to content and delivery and thus was not comprehensive in its scope.

Lambert (2004) carried out an experiment with a group of students interpreting from French into English to explore whether providing interpreters with the text to be rendered could improve their interpreting performance. By comparing their output in SI without text, sight translation and sight interpreting (which Lambert took to mean SI with text), she found better performance in sight translation and sight interpreting and concluded that visual exposure to written messages might not interfere with but could even enhance interpreting performance.

However, this conclusion was influenced by variables such as the students' interpreting competence and preparation time.

Setton and Motta (2007) investigated whether 'deverbalisation' yields better SI performance and asked two dozen professional and novice interpreters perform SI with text from English into French, with or without several minutes' preparation, for two audio-recorded speeches. The interpreters' output was mainly evaluated by software analysing textual features. Also, its accuracy, fluency and style were assessed based on transcripts by three professional interpreters; and its communicativity, overall quality and language quality were assessed based on audio recordings by four experienced users. One of Setton and Motta's (2007) findings was that the professionals and novices followed the source-language structure more closely and showed less deverbalisation when performing SI with text. As in the case of Lamberger-Felber and Schneider (2008), this finding therefore points to the likelihood of linguistic interference in SI with text.

Pyoun (2015) worked on quality parameters for SI with and without text by comparing the interpretations produced in these modes by six experienced interpreters for two similar speeches. Specifically, the interpreters working from Korean into French carried out three tasks: 1) interpreting without text, 2) interpreting with a Korean text, and 3) interpreting with an English text (English being the interpreters' B language). To eliminate the impact of variability between subjects, Pyoun compared the interpretations by the same interpreter ('intra-subject analysis') and focused on time lag in SI. She found that the interpreters' ear-voice span varied more strongly and was notably longer when they performed SI with text and that more omissions occurred in SI with text, particularly around where the speaker's utterances departed from the text. These findings suggest that SI with text made the interpreters' performance less stable, and that reading the text distracted interpreters from concentrating on the speech as their primary source of input. However, Pyoun did not conduct her study in a simulated conference environment, which may have influenced SI performance. Nor did she compare the interpretations by different interpreters, which otherwise could have provided further evidence for the impact of SI with text.

Spychała (2015) investigated the impact of text on SI performance to test two hypotheses: 1) working with text generates more accurate interpretations for dense speeches than working without text; 2) the quality difference between output in SI with and without text is correlated

with the density of the original speech, and particularly with the occurrence of numbers and proper names. She and four raters (master's students in Interpreting Studies, with experience in using SI services) assessed the output of eight novice interpreters working from English into Polish, in SI with and without text, for two dense and two non-dense speeches. Spychała analysed the accuracy of the rendition of numbers and proper numbers mentioned in the speeches by listening to the recordings. Additionally, the four raters listened to and assessed the interpretations regarding the following criteria: style, grammar, fluency, intelligibility, completeness, terminology, logical cohesion, voice and intonation, and general quality. The findings were in line with the first, but not the second hypothesis, and suggested that using the text enhanced SI performance. Yet Spychała's finding need further corroboration because the interpreters were inexperienced with performing SI with text and the raters assessed the level of accuracy by simply listening to the interpretations once, without comparing them systematically with the original speech. Also, considering that different user groups do not necessarily share the same or similar standards of quality, the raters' judgments may not be representative of those made by the target audience of the interpretations.

Yang (2019) conducted an experiment exploring the impact of speech rate on interpreters' cognitive load during SI with text by triangulating data from three sources: 1) eye-tracking data of 13 professional simultaneous interpreters and 30 trainee simultaneous interpreters working with text from Chinese into English, 2) a retrospective survey of the participants on task difficulty, and 3) quality assessment by several interpreting trainers and practitioners. Quality assessment focused on 11 parameters, namely synchronicity, completeness, sense consistency, logical cohesion, correct terminology, correct grammar, appropriate style, fluency of delivery, native accent, pleasant voice, and lively intonation. It was based on the transcripts of the interpretations, with the source speech text and the target speech text being aligned on the sentence level. In addition, some delivery-related features (e.g., pauses) were measured with the help of speech analysis software. Apart from professional interpreters' better and more stable performance compared to trainees, the findings suggested that an increase in speech rate had an adverse impact on overall interpreting quality. Nevertheless, these findings need to be considered with caution, not least because of the considerable variability between the individuals participating in the experiment. For instance, among the trainee interpreters, not all were experienced in SI, and some even had no interpreting practice at all; likewise, the level of working experience among the professional interpreters in the experiment varied considerably.

Overall, a few experimental studies have detected a variation in interpreters' output quality in SI with text when compared to SI without text. Yet it remains unclear whether interpreters' output resulting from working with text is impaired or improved, or, more precisely, whether the output is of an inferior or superior quality to that resulting from working without text, let alone understanding accurately the impact of SI with text. This is because, among the existing studies, some have ignored the need to judge quality from multiple perspectives, failed to control for other variables affecting interpreters' performance, or failed to analyse output in SI with text systematically and comprehensively. In view of these limitations, further studies are needed to explore in depth the quality and impact of SI with text. Particularly, such research should rigorously and thoroughly examine whether interpreters' output differs between performing SI with and without text, and if so how, in which aspects, to what extent, and from whose perspectives. Perhaps only through gaining these insights can the controversy surrounding SI with text be resolved.

In conclusion, SI with text is a highly challenging task that requires interpreters to efficiently rearrange the distribution of their available but restricted mental capacity. This complexity, along with a variety of situations where SI with text may occur, compels interpreters to respond differently to what they are accustomed to. Meanwhile, SI with text brings resources but also obstacles to interpreters' cognitive operations and yet, there is insufficient solid evidence for the knock-on effect on interpreters' performance. The impact of SI with text can be identified, but this requires a comprehensive analysis of output quality in SI with text performed naturally in a particular context, and the analysis should be undertaken rigorously and from multiple perspectives.

Chapter 2. Interpreting at the UN

As an organisation that functions as a forum for dialogue between countries, the UN has shown a remarkable reliance on a multilingual interpreting service; yet little is known about how the service is organised to suit the needs of the UN. Devoted to this issue, this chapter aims to present holistically the context of interpreting at the UN. Beginning with an introduction to the UN, it provides relevant background knowledge including the establishment, organisational structure, meetings, and languages of this organisation. Next, the chapter moves on to discuss SI at the UN: it initially explains how interpreting services have evolved and SI is used at the UN; it then describes past and present recruitment and selection procedures for UN interpreters; finally, it examines the nature of speeches at UN meetings, and the challenges they pose for simultaneous interpreters.

2.1. The United Nations Organisation

The United Nations Organisation was created about eighty years ago to promote world peace and international cooperation. During its development, the Organisation has established numerous subsidiary entities worldwide to facilitate its work; it also has expanded its language options to enable multilateral communication in a variety of meetings.

2.1.1. Establishment

The impetus for establishing the UN stems from the powerlessness of its predecessor – the League of Nations (LoN), the world's first intergovernmental peacekeeping organisation – to prevent the outbreak of World War II. During World War II, the allied countries proposed establishing an organisation similar to the LoN, but with more political influence; yet this idea was not realised until the end of the war. At the San Francisco Conference (formally known as the UN Conference on International Organisation) held on 24 and 25 June 1945, fifty founding members adopted and signed the Charter of the UN. On 24 October 1945, when the Charter was ratified and became effective, the UN officially came into existence (Volger 2010a).

According to the Charter (UN 1945), the UN has four main purposes: to maintain the peace and security in the world; to develop friendship among countries; to foster cooperation in solving international social, cultural, economic, and humanitarian problems; and to provide a forum for gathering countries, harmonising their actions, and meeting the purposes of the UN.

2.1.2. Structure

Since its establishment, the UN has been growing steadily in influence and has become the world's largest intergovernmental organisation with currently 193 members, which is to say almost all the countries in the world. Despite this expansion, the organisational structure of the UN remains nearly the same as it was in the early days.

2.1.2.1. Principal organs

To guide the work of the UN and achieve its purposes, the Charter established in 1945 six principal organs of the UN: the General Assembly (GA), the Security Council, the Economic and Social Council, the International Court of Justice (ICJ), the Trusteeship Council and the Secretariat. Except for the ICJ, based in the Hague, all of these are in New York City.

The GA functions like a parliament of countries: it is the deliberative, representative, and policymaking organ of the UN, comprising all its members, of whom each has an equal voice and one vote. The GA assembles at least once per year, usually at a plenary session (between September and December), to discuss the topics under the Charter and to consider the resolutions passed by its six main committees. The First Committee deals with security and disarmament, the Second Committee with economic and financial issues, the Third Committee with social, cultural, and humanitarian issues, the Fourth Committee with decolonisation, the Fifth Committee with budget and administration, and the Sixth Committee with legal affairs (Heideking 2010).

The Security Council functions to maintain international peace and security; it also makes recommendations to the GA concerning admitting new members to the UN and appointing the Secretary-General, the head of the UN. The Council had 11 members upon its establishment, but this number increased to 15 in 1965 and has since then remained unchanged. Among the

15 members, five – China, France, the United States, the United Kingdom, and the Russian Federation (formerly the Soviet Union) – are permanent and hold a veto, while the rest are non-permanent and elected by the GA on a two-year rotating regional basis. The Council does not meet regularly; rather, it is convened whenever international peace is threatened (Winkelmann 2010).

The Economic and Social Council addresses social, economic, and environmental issues. It also oversees and coordinates regional efforts and the work of some subsidiary organisations, specialised agencies, funds, and programmes. It has 54 members elected by the GA for (overlapping) three-year terms. Besides members, non-intergovernmental organisations and representatives of business and the private sector play a part in the activities of the Council (Spröte 2010).

The ICJ is the judicial organ of the UN, devoted to settling legal disputes between countries (not between individuals) under international law. It also provides advisory opinions on legal issues as requested by the authorised entities of the UN. The ICJ is composed of 15 independent magistrates who do not represent their countries or governments and are elected by the GA and the Security Council for nine-year terms (Oellers-Frahm 2010).

The Trusteeship Council was founded to supervise the administration of the Trustee territories, the former colonies or dependent territories, and help them attain independence. Since the last Trustee territory (Palau) achieved self-governance in 1994, the Council has officially suspended its work. Today, it counts five nominal members, which are the permanent members of the Security Council (Volger 2010b).

The Secretariat is the executive organ of the UN that serves the other main organs and administers their policies and programmes. The Secretariat comprises the Secretary-General, appointed for 5-year terms, and tens of thousands of international staff working at UN duty stations around the world. Within the Secretariat, the Department for General Assembly and Conference Management is the largest and is responsible for offering technical secretariat support and meeting services, including interpretation from and into the official languages of the UN (see Subsection 2.1.4), provided by the Interpretation Service of the Meeting and Publishing Division, the smallest section within the Department (Shermet 2016; UN 2015, 2017c; Volger 2010c).

2.1.2.2. Headquarters

The UN, while having duty stations worldwide, is headquartered in New York City, Geneva, Vienna, and Nairobi. The headquarters in New York City was completed in 1952 and has since been the main and the largest head office of the UN. This headquarters is the seat of five primary organs of the UN and several other UN entities such as the UN International Children's Emergency Fund and the UN Development Programme (Volger 2010d).

The headquarters in Geneva – the United Nations Office at Geneva (UNOG) – is the second largest. It has been situated since 1946 at the former home of the LoN – the Palais des Nations (see Figure 2.1). This headquarters is also the site of some UN entities, including the International Labour Office (ILO) and the UN Office for Disaster Risk Reduction (UNDRR). As these entities are entrusted with specialised responsibilities, the work of the UNOG is primarily related to policy management and service provision (Lassen and Kaltenbach 2010).

Figure 2.1. UNOG

The headquarters in Vienna – the United Nations Office at Vienna (UNOV) – is the third largest. It is located at the Vienna International Centre (VIC) (see Figure 2.2). Since its opening in 1979, this headquarters has been the base for a few UN organisations and specialised agencies like the International Atomic Energy Agency (IAEA) and the UN Office for Outer Space Affairs (UNOOSA). The UNOV provides the VIC-based UN entities with logistic and administrative support including meeting services (Volger 2010e).

Figure 2.2. UNOV

The headquarters in Nairobi – the United Nations Office at Nairobi – is the only headquarters located in a developing country (Kenya). It is also the youngest and smallest among the four: established in 1996, this headquarters is the base of two UN programmes, the UN Environment Programme, and the UN Human Settlements Programme, which receive administrative and support services from it (Volger 2010f).

2.1.3. UN Meetings

One commonly held view of the UN is that it mainly plays a peacekeeping role. While this is true in theory, the role of the UN in practice is more than that because the Organisation also serves as a global platform for intergovernmental cooperation and communication. Every year since its creation, the UN has convened numerous meetings gathering its members and other relevant stakeholders to talk to each other face to face. These meetings are not confined to a single format; they may vary in size, duration, location, structure, formality, openness, regularity, participants, procedure, confidentiality, focus areas and many others, depending on the entity (the organiser) and its scope of responsibilities.

UNOOSA, for example, has organised various meetings for different purposes: it holds open symposia comprising keynote statements, panel discussions and side events and gathering hundreds of representatives of governments, academia, space agencies, other UN entities,

private and public sectors, and civil society (e.g., the World Space Forum on leveraging space technologies). It also organises joint seminars and workshops outside of its base, limited to a defined (small) group of participants (e.g., the UNOOSA-Holy See Seminar on space exploration and development). Furthermore, the Office regularly convenes plenary sessions lasting for weeks, attended by its members, observers, and experts (e.g., the annual sessions of the Committee on the Peaceful Uses of Outer Space (COPUOS), to which UNOOSA provides secretariat services) (UNOOSA 2018).

2.1.4. UN Languages

The UN has six official and working languages: English, French, Spanish, Russian, Arabic and (Mandarin) Chinese. Some explanation is required for the difference between the two types of language, and for the use of only six languages at the UN although it has hundreds of members.

During the era of the LoN, only English and French were considered the official languages of the LoN, used for spoken and written statements.[5] This is mainly because English and French were at the time the diplomatic languages worldwide and were used at the 1919 Paris Peace Conference, during which the plan for forming the LoN was decided (Howard-Ellis 1929; LoN 1936).

At the San Francisco Conference, when the delegates of France, China, the Soviet Union, and the Spanish-speaking Latin American countries requested the use of their languages, English and French became the working languages, and Spanish, Russian and Chinese became additional official languages. The official languages were those in which any spoken and written statements could be made; the working languages were used only in the translation or interpretation of a statement made in an official language other than English and French (Baigorri-Jalón 2004; Corten and Klein 2011).

In 1946, right after the establishment of the UN, the GA adopted the same arrangement of languages as that at the San Francisco Conference. According to the arrangement, English, French, Spanish, Russian and Chinese were the official languages, and English and French the

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[5] Spanish was used too but given up soon after being introduced by the LoN (Paqué 2010).

working languages of all UN organs (excluding the ICJ, the official languages of which have always been English and French) (see UNGA 1946). Yet between 1948 and 1973, a few modifications were made to add Spanish, Russian and Chinese as working languages and Arabic as an official and working language of the GA (see UNGA 1948, 1968, 1973a and 1973b). This modified arrangement has been in effect ever since and gradually applied to the UN system, so that today the UN has six official and working languages (Paqué 2010).

2.2. SI at the UN

Multilingual communication through interpreting is what the participants of UN meetings rely upon to understand each other in real time. This interpreting service is provided by professional interpreters, more or less behind the scenes.

2.2.1. Transition from CI to SI

Before the UN was founded, CI had been the primary interpreting mode used at international meetings including the San Francisco Conference; in contrast, SI was not performed until 1927 at the assembly of the ILO. This began to change with the success of SI at the Nuremberg Trial. In 1945 in Nuremberg, Léon Dostert, then chief translator and interpreter of the Trial, introduced the technical equipment that had been tested and used at the ILO to perform SI as a way of enhancing the efficiency of interpreting services. This performance made the four languages of the Trial (English, French, Russian and German) understandable to participants in an instant, which was unprecedented and thus attracted great attention worldwide, including from the newly formed UN (Baigorri-Jalón 2004; Gaiba 1999).

In 1946, on the recommendation of the GA to enquire into installing equipment for SI (see UNGA 1946), the Secretary-General authorised a range of enquiries, including studying the equipment at the Nuremberg Trial and experimenting with SI in Lake Success, where the UN was based at the time. On 1 November 1946, at the meeting of the Fifth Committee of the GA in Lake Success, the SI experiment astonished the world by enabling the first-time simultaneous use of five languages (English, French, Spanish, Russian and Chinese). Moreover, this successfully demonstrated the feasibility, usefulness, and above all advantages of using SI at the UN, especially for saving time (as also found at the Nuremberg Trial) and reducing costs.

Considering the Nuremberg and Lake Success experiences, the Secretary-General made several recommendations to the GA which included expanding the team of interpreters, offering SI as a permanent service used alternatively or in conjunction with CI, and installing equipment for SI in various meeting rooms of the UN. In 1947, these recommendations were approved by the GA (see UNGA 1947), hence opening the gate officially to the performance of SI at the UN. Ever since the provision of the necessary equipment in meeting rooms, SI has been increasingly used and gradually displaced CI. Today, CI is rarely performed except at certain special events (e.g., the UN's field missions), whereas SI has become the prime and almost sole interpreting mode used at the UN (Baigorri-Jalón 2004; Diur 2015; Schweda-Nicholson 1986).

2.2.2. Language booths

In the early days of the use of SI at the UN (before Arabic became a UN language), different 'language booths' (i.e., the Chinese, English, French, Spanish and Russian Interpretation Sections) had the same arrangement: there were four interpreters in each booth to cover different language combinations, working unidirectionally from one official language (the interpreters' B language) into another (the interpreters' A language). For example, in the Chinese booth, one interpreter worked into Chinese from English, another from French, another from Spanish and a fourth from Russian (Baigorri-Jalón 2004).

This arrangement was later replaced by a more effective alternative, involving fewer interpreters but more language combinations, and has since remained unchanged. This is because some interpreters cover three languages and others work bidirectionally. In the latter case, SI is combined with relay interpreting, an interpreting mode in which interpreters work indirectly from one language to another via a third language (Shlesinger 2010).

Specifically, a six-language meeting of the UN requires a team of fourteen interpreters: two per booth for English, French, Spanish and Russian and three each for Chinese and Arabic. The Arabic and Chinese booths are two-way, where interpreters work from and into their A language, alternating every 20 minutes, while the other booths are one-way, where interpreters work into their A language, working in half-hour shifts. According to Baigorri-Jalón (2004), these differences between booths are partly due to the larger workload for the Arabic and

Chinese booths. In addition, each booth covers two to four languages: English interpreters work from French, Spanish and Russian; French interpreters from English, Spanish and Russian; Spanish interpreters from English, Russian and French; Russian interpreters from English, French, and Spanish; Arabic interpreters from and into English or French; and Chinese interpreters from and into English. Furthermore, the English and French booths function as a 'pivot', from which the interpreters of other booths can take relay for the languages they cannot work from directly. The Arabic and Chinese booths also serve as a 'pivot' when their interpreters work into English or French[6] (Baigorri-Jalón 2004; Beckwith 2017; Kaufmann 1996; Shermet 2016).

To summarise the above information, Table 2.1 lists the language combinations of direct SI and relay SI performed in different booths. Take the Chinese booth again as an example: the interpreters there work directly between English and Chinese; they also work into Chinese from French, Spanish, Russian, and Arabic (when it is interpreted into French) by relaying from the English booth, and from Arabic (when it is interpreted into English) by relaying from the Arabic booth.

Table 2.1. Language combinations of SI in UN booths

Booth	Direct SI	Relay SI
English (EN)	FR/ES/RU → EN	AR → FR → EN
French (FR)	EN/ES/RU → FR	ZH/AR → EN → FR
Spanish (ES)	EN/FR/RU → ES	ZH → EN → ES AR/RU → EN/FR → ES
Russian (RU)	EN/FR/ES → RU	ZH → EN → RU AR → FR/EN → RU
Chinese (ZH)	ZH ↔ EN	FR/ES/RU/AR → EN → ZH
Arabic (AR)	EN/FR ↔ AR	ZH → EN → AR RU/ES → FR/EN → AR

2.2.3. Becoming a UN simultaneous interpreter

The UN has recruited simultaneous interpreters for decades, first without and then with a systematic evaluation procedure. Selection has always been rigorous, demanding that qualified

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[6] In this case, Arabic and Chinese interpreters use the English or French channel (output channel) available from interpreter consoles to serve ('override') the English or French booth, instead of moving physically into either booth.

candidates acquire a high level of professional knowledge and skills before working at the Organisation.

2.2.3.1. Recruitment of the first team

As described by Baigorri-Jalón (2004), in 1946, three months before the SI experiment in Lake Success, Dostert was assigned the task of recruiting a team of twenty simultaneous interpreters. Aware that most simultaneous interpreters were still working for the Nuremberg Trial and that even if they were all available, few could cover Chinese or Spanish, Dostert searched for candidates everywhere possible, including by asking for recommendations from universities and national authorities. Then the candidates, mostly natural polyglots inexperienced in SI, were interviewed on their language skills and tested for their potential to perform SI. The test, conducted in a booth, required them to listen to a read speech through headphones and to simultaneously speak the rendition in their A language into a microphone. However, due to the lack of time and established selection standards, Dostert and his assistant (Mark Priceman) relied on their intuitive judgment to pick the potential candidates who, besides being multilingual, had an alert mind, good voice, abundant vocabulary, oratory skills, and above all the ability to grasp a message before it was fully delivered. After the test, the successful candidates were immediately enrolled in training for acquiring SI skills and learning about the topics of the speeches to be interpreted during the experiment. Eventually, twenty highly educated multilinguals (MAs, PhDs, and professors) constituted the first team of UN simultaneous interpreters and debuted in Lake Success.

2.2.3.2. Recruitment in the early days

Between the 1960s and 1990s, factors including the spread of SI services, the additional working languages, an increasing number of meetings and some interpreters' leaving boosted the demand for simultaneous interpreters at the UN. As Baigorri-Jalón (2004) explained, among the candidates for the job, most were not natural polyglots but had learned multiple languages, coming from interpreting schools or other walks of life. The latter needed to pass several stages to get selected for interpreting at the UN. They first had to take an interview demonstrating an excellent education, broad knowledge, ability to focus, exceptional memory, proficiency in several (generally three) UN languages, and above all competence in instantly

interpreting into their A language as they listened to speeches (one half of which were made in their B language and the other half in their C language). Next, the candidates selected through the interview would be trained in-house for months to learn the jargon and subjects of the UN, perform sight interpreting and SI, and interpret at mock meetings. They then had to sit an internal test comprising an SI exercise and an interview, and only after passing both would they finally become UN simultaneous interpreters.

The process of selecting graduates of interpreting schools was different, because such candidates had already gone through similar tests and possessed interpreting skills, and some had even been trained specially for working at the UN. The following two examples, mentioned by Baigorri-Jalón (2004) and Li (2010), can serve to illustrate the process. The first is the selection of candidates from the non-UN-tailored interpreting programme of the Faculty of Translation and Interpreting in Geneva. Before taking the test of the UN, candidates had already completed five years of specialised study – a four-year course in translation (and other subjects) followed by a one-year course in interpreting, including SI. During the test, the candidates needed to perform SI from their B and C languages into their A language. They also would be tested on their general knowledge, professional experience, proficiency in UN languages, and aptitudes for serving at the UN (e.g., knowledge of the UN, ability to work in a team, availability for any work offered and adaptability to working conditions). Only those who passed the test would be eligible for the job. The second example is the selection of candidates from the UN-tailored interpreting programme of Beijing Foreign Studies University. To enter the programme, the candidates would be tested on their general knowledge, proficiency in Chinese and English, translation and interpreting skills, and interest in serving at the UN after graduation. If the candidates passed the test, they would receive a two-year intensive training, including learning the jargon and subjects of the UN and using its material to perform SI between English and Chinese (and optionally between French and Chinese). After the training, they would sit a graduation exam assessed by faculty members as well as UN interpreters. During the exam, candidates had to perform SI between Chinese and English, after which their interpretations would be scored in terms of accuracy, completeness, language use, style, and so forth. They would then be interviewed about their professional knowledge and career expectations. Only those passing the exam were recruited to interpret at the UN.

2.2.3.3. Recruitment through the Language Competitive Exam

In the 1990s, the UN introduced the Language Competitive Exam for interpreters (LCE) in order to systematically evaluate candidates' eligibility for employment. This test replaced the previous selection procedure and is now the only admission test that a candidate must pass to become a UN simultaneous interpreter. To sit the LCE, candidates must be highly proficient in several UN languages, hold a university degree, preferably in interpreting (and otherwise with conference interpreting experience), and build on the career website of the UN a résumé to be checked by the human resources department and interpreters in charge. The LCE consists of two eliminatory parts. The first part is an SI test which requires English-, French-, Russian- and Spanish-speaking candidates to interpret into their A language three 5- to 10-minute speeches of increasing complexity (e.g., intensity, speed, and topic); Chinese- and Arabic- speaking candidates are required to interpret three such speeches into and from their A language. To pass the exam, candidates must provide simultaneous interpretations of all speeches that are accurate, complete, neat, clear, fluent, synchronous, grammatically correct, and appropriate in style and register. Only candidates passing the exam can take the second part, a competency-based interview. During the interview, candidates will mainly be asked about their past professional experience to demonstrate their potential for succeeding in the job. After passing the interview, they will be listed in a roster, valid for two years, and can fill available vacant UN interpreter positions (Diur 2015; Ruiz Rosendo and Diur 2017; UN 2017a).

Though there is no official documentation, I am aware that the LCE for Chinese interpreters includes an additional test, perhaps owing to the recent mushrooming of applicants (see UN 2017b). This test serves as an initial screening, prior to the SI test mentioned above. The so-called 'written assessment test' consists of three translation exercises of 90 minutes each: 1) a translation into Chinese of a general English text, 2) a translation into Chinese of a specialised English text, and 3) a translation into English of a general Chinese text, or into Chinese of a general text in Arabic, French, Russian or Spanish.

2.2.4. Speeches

Among the various types of speeches delivered at UN meetings (e.g., thematic reports, off-the-record remarks, technical presentations, and informal interactive debate), formal statements –

usually written in advance and read aloud on-site for several minutes – by delegates of member states are probably the most typical and frequent (see Shermet 2018). Yet interpreting such speeches can be challenging – even for experienced interpreters. This is not simply due to the high standards that the UN sets for interpreters' performance, but also to the difficulties peculiar to such speeches.

2.2.4.1. Accents

One of the difficulties of UN speeches is accents. Given the limited number of languages available at UN meetings, many participants taking the floor have no choice but to speak a language to which they are not native. Consequently, their speeches carry regional or foreign accents. For example, participants from countries where English is widely used as a foreign language or lingua franca (e.g., China and Japan) speak English with a foreign accent; while those from countries where English is not the first language but a second or an official language (e.g., India and Kenya), or from native English-speaking countries (e.g., Australia and New Zealand), have regional accents (see Kachru 1985). Yet whichever the type, strong accents in speeches are found in the research by Kurz (2008), Lin et al. (2013), McAllister (2000) and Sabatini (2000) to impair interpreters' comprehension and SI performance, and to ultimately trigger interpretation errors such as omissions and substitutions.

2.2.4.2. Written language

Another difficulty of UN speeches is written language. As mentioned earlier, many UN meetings are for diplomatic and political exchanges, for which participants usually carefully draft and revise their speeches before speaking, based on the rules of written language rather than spoken language. Therefore, such speeches are constructed differently from oral discourses, containing very few repetitive expressions but many complex and compound sentences (Baigorri-Jalón 2004; Shermet 2018). Interpreting such a speech is similar to translating instantly a written text, which is more mentally demanding than interpreting a spontaneous speech. As put by Déjean le Féal (1982: 221), 'the sense of an improvised (i.e., unscripted) speech is easier to understand than that of a speech drafted in advance'. Moreover, interpreting a speech that has complex content, or whose content is formulated in complex

syntax, can confront interpreters with information overload and the risk of producing inaccurate renditions (Tommola and Helevä 1998).

Additionally, when a written speech is read out word for word, it may result in poor prosody (e.g., a monotonous tone) and adversely affect its comprehensibility. This is because when participants are reading aloud, they concentrate on expressing every sentence in its written form, rather than thinking or intending to paraphrase or simplify complex sentences, and seldom do they embellish the speech with interactive delivery elements (e.g., a proper cadence, pacing, smoothness, and emphasis). Nonetheless, these elements, paraphrasing and simplifying enhance the liveliness and comprehensibility of a speech, while a speech without these facilitators may prevent listeners – including interpreters – from effectively understanding it (Déjean Le Féal 1982). As stated by Seleskovitch (1978: 133), 'Lacking spontaneity, the oral presentation of a written document is just as devoid of meaning as a play read by a non-actor in a monotone.'

2.2.4.3. Speed

Yet another, and perhaps the most critical aspect of UN speeches is speed, and possibly there is nothing that UN interpreters dread more than dealing with a fast speech. When striking for improved working conditions in 1974, UN interpreters complained bitterly about the staggering speed that they had to cope with (Baigorri-Jalón 2004); when surveying UN staff interpreters, Diur (2015) found that fast speeches were the main concern for most of them; when describing how fast UN delegates could speak at meetings, Baigorri-Jalón (2004: 132) and Shermet (2017) used expressions like 'light speed' and 'incredible speed'; when asked about their impression of UN speeches, three UN interpreters replied that speakers raced against a ticking clock, uttering their statements as fast as possible (Baigorri-Jalón and Travieso-Rodríguez 2017).

As shown in Table 2.2, the recommended optimal speed of speeches for SI is a maximum of 100 words per minute (wpm) according to Lederer (1981), 120 wpm according to Gerver (2002), Moser (1978) and Seleskovitch (1978), or 130 wpm according to AIIC and Riccardi (2015). This does not seem to be respected in the case of speeches made at the UN, even though the Organisation has suggested that delegates speak at a speed not exceeding the equivalent of 120 wpm in English in order to ensure quality interpretation (see UN 2002). For example, UN

interpreters complained during the 1974 strike about the Russian delegates' inhumane speed of delivery – over 200 wpm (Baigorri-Jalón 2004); Diur (2015) reported that two randomly-picked speeches at a meeting of the IAEA were delivered at 158 and 170 wpm; Barghout et al. (2015) found that of twenty conference speeches of the UN Office of the High Commissioner for Human Rights (OHCHR), the fastest was delivered at nearly 190 wpm and the average was 150 wpm. All these figures of UN speeches are far above the suggested rate and considered interpreter-unfriendly because such speed can adversely affect the quality of interpretation (see Barik 1973; Gerver 2002; Pio 2003).

Table 2.2. Maximum speed of speech input suitable for SI (in wpm)

Gerver (2002) Moser (1978) Seleskovitch (1978)	120
Lederer (1981)	100
AIIC (n.d., cited in Seeber 2015) Riccardi (2015)	130

In addition to what has been said above, there are other difficulties in interpreting UN speeches, such as the UN-specific topics and terminologies (see Diur 2015). Yet accents, speed and written language are three of the most prominent challenges facing UN interpreters and identified as impairing SI performance, whether it is by an experienced interpreter or not.

To summarise, the UN since its creation has been a forum for dialogue allowing for direct and real-time communication between countries. Nevertheless, such communication would hardly be possible without the support of the SI services provided in six languages by a select group of interpreters at the UN. These interpreters, be they from the previous or current generation, professionally trained or not, have all achieved mastery of multiple UN languages and expertise in performing SI. Even so, their performance can be challenged by the accents, speed, and written language typical of UN speeches. The interpreters may manage to cope with these difficulties in one way or another, but they may also fail to perform smoothly if the task is accompanied by another complexity – SI with text.

Chapter 3. Research Questions and Methodology

The methodology used in this research to investigate the impact of SI with text in UN conferences integrates various approaches and techniques, as elucidated in the present chapter. This chapter opens with a description of what this research intended to address, followed by an introduction of the methods used, and ends with an explanation of the overall design and methodological framework for this research.

3.1. Aim, questions, and hypotheses

As discussed previously, working with text may have both beneficial and adverse effects on simultaneous interpreters' cognitive operations and output (see Subsection 1.2.5). Based on this assumption, the present research aimed to identify the impact of performing SI with text on the quality of interpretations, specifically of those produced in UN conferences. To achieve this aim, it pursued the following main questions:

1. Is there a difference in simultaneous interpreters' output quality when they interpret a read-aloud speech with the script available in the booth (SI with text) compared to working without the script (SI without text)?
2. If so, what is the difference?
3. How do users perceive the quality of SI with and without text?

As discussed in Subsection 1.3.3, some studies (e.g., Setton and Motta 2007; Lamberger-Felber 2001, 2003), have suggested that using the text during SI enhances interpreters' accuracy but adversely impacts their delivery. Based on these studies, the following hypotheses were formulated:

1. SI with text improves the content (i.e., the level of accuracy and completeness) of interpreters' output.
2. SI with text negatively affects the form and delivery (e.g., fluency and syntax) of interpreters' output.

Furthermore, as also mentioned earlier, users do not possess the required linguistic skills and rely heavily on superficial factors when judging the quality of interpreters' renditions (see Subsection 1.3.2.3). In order to test this idea, another hypothesis was developed:

3. Users prefer SI without text to SI with text regarding both target-language form and delivery.

3.2. Methodological choices

To address the above aim, questions and hypotheses, this research seeks to compare the output of UN interpreters when they perform SI with and without text and to elicit users' perceptions of the quality of interpretations done in the two modes. It also needs to investigate UN interpreters' actual workplaces as the specific context in which SI with and without text are used.

Altogether four different research approaches – field observation, corpus analysis, survey research and experiment – are adopted to answer the research questions. The following explains why they were considered suitable and necessary for this research.

3.2.1. Field observation

Field observation is often used in interpreting research as an effective approach to collect naturally occurring data. It allows realistic and first-hand insights into an interpreter-mediated event or an interpreting phenomenon as it unfolds naturally (Baraldi and Mellinger 2015; Gile 1990a).

Many scholars have therefore adopted this approach for exploring interpreters' work environment, routines, and processes: Pöchhacker (1994a), in his pioneering work on simultaneous conference interpreters' real-life practices, identified how interpreters' output was affected by environmental factors, other than simply the original speech, through observing on-site a three-day business studies conference in Vienna. Diriker (2004) explored the interdependency between socio-cultural contexts, where conference interpreters work as professionals, and the actual interpreted utterance by using meta-discourse analysis, interviews,

and participant observations at a two-day conference on philosophy. Duflou (2016) investigated the authentic work situations where the interpreters of the European Union (EU) organise and carry out their professional tasks in a four-year ethnographic study, primarily through participant observation. However, studies looking into interpreters' roles and workplaces in, for instance, medical settings (e.g., Angelelli 2004), court settings (e.g., Hale 2004) and religious settings (e.g., Downie 2016) have yielded novel insights through field observation.

From my dummy booth practice in some multilingual meetings at the UN, I had become aware of how special – and largely unique – this work environment was for interpreters. As this research was situated within this context, it was essential and pertinent to explore and understand the specific conditions and processes in which UN interpreters at work organise and carry out SI tasks, and the characteristics contributing to their typical practices. Drawing inspiration from Duflou's (2016) ethnographic observational study on EU interpreters, I sought to examine in detail the organisational context where UN interpreters provide their professional services as well as the specificities of SI in UN conferences. For accessing the field without disturbing delegates or interpreters, an overt non-participant observation was decided where I would be seen as a doctoral student conducting research on the UN interpreting community.

3.2.2. Corpus Analysis

A corpus, defined as a collection of manually or digitally stored spoken and/or written materials, is often employed to facilitate the analysis of linguistic phenomena (Hasko 2013). In interpreting studies, analysing a corpus – typically constituted by transcripts, with or without aligned audio/video, of an interpreter-mediated event – is considered a major approach for investigating in depth the process and product of the event (Bendazzoli 2015; Shlesinger 1998).

Since the early days of research on interpreting, this approach has attracted the interest of many scholars. Oléron and Nanpon (2002), who were among the first to compile a corpus of interpretations, studied interpreters' ear-voice-span on the basis of recordings and transcripts of the original and interpreted speeches made in a meeting of the UN Educational, Scientific and Cultural Organisation. They also subsequently established and investigated a corpus constituted by the same types of materials collected in an experimental setting. Their research

points to the possibility of building a corpus with materials that are either authentic or experimentally generated, or both. Pöchhacker (1994a), who investigated the interplay between interpreters' performance and their situational context, worked on a sizable authentic corpus of German/English SI. Setton (1999) compared the input and output in SI with regard to syntactic structures based on a multilingual corpus consisting of audio samples and transcripts from both mock and real meetings. When probing into the relationship between information loss and source language variables, Lu (2018) created and analysed a parallel corpus of SI samples produced at over 100 international conferences. Apart from these, numerous studies used the corpus-based approach for exploring interpreting processes and/or products (e.g., Ahrens 2005; Barghout et al. 2015; Bendazzoli 2019; Bendazzoli et al. 2011; Kalina 1998; Lang et al. 2018; Plevoets and Defrancq 2016; Vuorikoski 2004).

Given that this research sought to identify the difference in quality between the 'end products' of SI with and without text, it was necessary to embrace this approach for analysing a collection of simultaneous interpretations with and without text. Moreover, stimulated by the work of Pöchhacker (1994a), who combined field observation and corpus analysis based on evidence obtained directly from real-world SI assignments, I considered it worth attempting to create a 'natural' corpus, comprising authentic materials from a simultaneously interpreted meeting of the UN. Doing so can enhance the validity of the research findings because analysing a natural corpus to study an interpreting phenomenon would alleviate many contentious methodological issues arising under controlled conditions, like using artificial or decontextualised materials.

3.2.3. Survey research

Survey research, which obtains responses to a certain topic from a set of data sources (population), typically by eliciting responses to questions through qualitative interviews or quantitative questionnaires, is a widely used method of research in interpreting studies, particularly when it comes to seeking opinions from users, interpreters and so forth (Gile 1991a; Moser-Mercer 1996; Pöchhacker 2015, 2016). For example, Bühler (1986), who first adopted this approach to study quality in interpreting, enquired into AIIC members' perceptions of quality criteria by distributing on-site questionnaires (see Subsection 1.3.1). Zwischenberger (2009) as well as Chiaro and Nocella (2004), in their replications of Bühler's research, approached a larger number of respondents with the help of web-based questionnaires. Kurz

(1989), when seeking to elicit users' expectations of SI quality, conducted a questionnaire-based survey of participants at an interpreted medical conference. Gile (1990b) explored users' satisfaction with the SI service by asking participants (also at a medical conference) to evaluate the quality of the interpretations to which they had just listened in a questionnaire. Diur (2015), in her research on the UN Language Competitive Exam, distributed two types of web questionnaires, a full-population survey of UN interpreters and a survey targeting New York-based UN senior interpreters. Duflou (2016) conducted in-depth, semi-structured interviews with EU interpreters on their professional competence and practices that offered thought-provoking insights into the context of interpreting in the EU.

While designing this research, I was enlightened by Duflou's (2016) combination of observational fieldwork and interviews which generated interrelated and complementary empirical evidence associated with EU interpreters' work environment, organisation, and routines. Undoubtedly, field observation complemented by qualitative interviews offers a richness of insight into the interpreting activities and situations at the UN that mere observation cannot achieve. This is why the method of qualitative interviews was chosen, for reaching out in the field to UN interpreters directly, hearing their experiences and understanding their views on their routine practices, especially in relation to SI with text. To gather appropriate data, semi-structured interviews were planned that included not only predetermined questions steering the discussion around the research topic but probing questions that would elicit follow-up and elaboration from the interviewee.

In order to address the third question and hypothesis, I adopted a quantitative web-based survey approach similar to the one employed by Diur (2015) and Zwischenberger (2009), which allowed them to elicit in a timely fashion far more replies from different parts of the world than traditional 'paper and pencil' questionnaires would allow. With the help of online questionnaires, I could expect to gather rapid responses from a large population.

3.2.4. Experiment

Experiments are used in interpreting studies to create, for specific purposes, a controlled environment and/or task in order to explore the relationship between presumed causes and effects of an interpreting phenomenon (Gile 2015b).

Much research has been done using experimental techniques to study the impact of certain factors on interpreters' performance. For example, all the work reviewed in Subsection 1.3.3 examined the effect of using the texts available in the booth on SI output in an experimental setup. In addition, many studies have identified users' responses to features of SI output with an experiment-based approach: Collados Aís (2002), when investigating the effect of monotonous intonation on users' judgment of SI quality, manipulated the criteria of intonation and sense consistency in different versions of an interpretation and asked users in an experiment to evaluate these interpretations without being aware of the manipulation. In a similar study, Holub (2010) created two versions of the same interpretation, with different intonation patterns, and had them evaluated by users in a mock conference setting. Cheung (2013) also examined in an experiment how users perceive the quality of three versions of the same interpretation with different accents. When investigating the impact of fluency on user perception, Pradas-Macías (2006) analysed users' evaluation of the quality of simultaneous interpretations manipulated with regard to pauses. Rennert (2010) also studied user' assessment of simultaneous interpretations and manipulated fluency parameters such as pauses, repairs, false starts and syllable lengthening. Zwischenberger (2013), when surveying AIIC members about quality and roles related in simultaneous conference interpreting, conducted a web-based experiment on respondents' impressions of heard simultaneous interpretations.

Inspired by the above-mentioned experimental investigations of user perceptions of SI quality, this study integrates the approaches of survey research and experimentation in a questionnaire-based blind test in which participants are asked about their expectations of SI quality and requested to evaluate simultaneous interpretations with and without text. This design would serve to identify whether there is a relation between users' expectations and actual perceptions of SI services, and whether users could perceive differences between SI with and without text.

3.3. Design

3.3.1. Multi-method approach

This research used a multi-method approach derived from the earlier discussion on who should judge SI quality (see Subsection 1.3.2) and Moser-Mercer's (1996) idea that a comprehensive analysis of interpreting quality should consider different perspectives:

> A thorough examination of the notion of quality in interpreting requires looking at it from a variety of different perspectives. Quality cannot be seen only through the eyes of the interpreter, the provider of the service who bases himself on his own set of self-imposed standards. The quality of service performed can also be evaluated in terms of the judgments, needs and expectations of users of that service.
>
> (Moser-Mercer 1996: 46)

Figure 3.1 illustrates the multi-method design combining field observation, corpus analysis, survey research and experiment that was adopted to carry out three different but complementary and interconnected studies, all focusing broadly on SI with text at the UN.
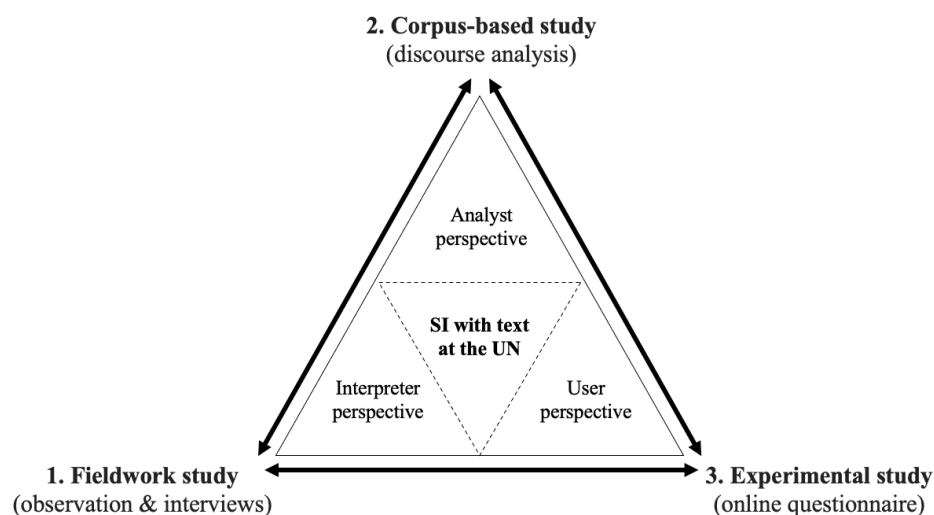
Figure 3.1. Research design

Field observation of UN interpreters' work environment and practices was, as already mentioned above, used to provide a contextual background for the work situations, processes

and tasks of UN interpreters. Semi-structured interviews were conducted with the interpreters, at intervals during the observation period, regarding what was observed and pertinent to the research topic. In the corpus-based study, focus was given to the difference in quality between simultaneous interpretations with and without text produced in the same context. The relevant information derived from the fieldwork study was taken into account, which helped address the first and second main questions and hypotheses in the context of the UN (as indicated by the arrow from point 1 to point 2). The findings of this study could in turn provide evidence for UN interpreters' opinions as well as the interpreting phenomena observed in the first study (as shown by the arrow from point 2 to point 1). The questionnaire-based experiment served as a further investigation which used interpretations analysed in the corpus-based study as stimulus material (as signified by the arrow from point 2 to point 3). It targeted the original users of the interpretations, whose backgrounds were identified through the fieldwork study (as indicated by the arrow from point 1 to point 3), and focused mainly on their perceptions of the quality of the interpretations. The findings drawn from this study not only addressed the third research question and hypothesis but also supplemented the knowledge gained in the first and second studies by adding the perspective of users as the recipients of interpretation (as demonstrated by the arrow from point 3 to points 1 and 2).

As can be seen, an attempt was made to combine various perspectives – those of users, interpreters, and analysts – to offer a comprehensive insight into the routines, organisation, environment and product of interpreting, in particular SI with text, performed at the UN.

3.3.2. Macro-level plan and implementation

Based on the multi-method design, this research was planned over a period of three years in three partially concurrent phases: Phase I of the process covered the period from 2016-2017 for the fieldwork study. It included conducting the field observation as well as the interviews and analysing the obtained data. Phase II covered the period between 2017 and 2018 for the corpus-based study. This phase encompassed activities including building a corpus and analysing the data contained in it, with consideration of the findings of the fieldwork study. Phase III, for the experimental study, covered the process from developing the survey in 2018 to analysing the collected responses in 2019. Alongside this, the findings of the three studies were combined and compared to draw well-founded conclusions.

Establishing a research plan is one thing, while implementing that plan in the real world is another. The following sections describe how the three studies were practically implemented. The concrete steps taken during implementation will be elaborated on in the methodology sections of the study-specific chapters to follow.

3.3.2.1. Fieldwork study

As described before, the fieldwork study involved overt non-participant observation and semi-structured interviews on UN interpreters' work practices and environment. Considering that this study depended heavily on access to the field, I first identified a workplace of UN interpreters – a simultaneously interpreted conference organised by the UN – that was suitable for this research and obtained permission from the Interpretation Section to investigate it. The investigation was conducted in 2016 from a dummy booth at a UN conference in Vienna, which allowed observation of naturally occurring activities in the working booths and conference room without interference. During the observation, much of the attention was given to the physical conditions of the workplace and the interpreters' work procedures and routine practices associated with SI with text. However, the interpreters were unavailable for interviews either on-site or remotely.

In 2019, having been working as a freelance interpreter for UN entities in addition to my work as an interpreting researcher and interpreter trainer with an academic affiliation, I decided to conduct a second observation as a 'practisearcher' (Gile 1994: 150). The main purpose was to add the interpreter perspective and real-word evidence that could complement the findings of the earlier observation and the corpus-based study described below. This observation was carried out in that year, during one of my assignments as a simultaneous interpreter working for a UN conference held in Geneva. Taking advantage of this opportunity, I decided to observe directly in my working booth. The observation was covert and therefore could not interfere with colleagues' actual performances. In that process, particular attention was given to interpreters' interaction and cooperation, typical working mode, and practices associated with SI with text. Alongside this, a few colleagues were interviewed informally during intervals to elicit their opinions. Some of the questions raised in the interview were related to the

interviewees' experiences with and perceptions of SI with text, and some were based on the findings of the two observations and the corpus-based study.

3.3.2.2. Corpus-based study

The corpus-based study started right after the implementation of the first observation, given the availability of the materials necessary for building a suitable interpreting corpus. These materials were taken with permission from the observed conference, consisting primarily of recordings of the original speeches and corresponding (Chinese) simultaneous interpretations with and without text as well as the scripts of the original speeches available in the interpreting booth. The corpus ultimately contained also the transcripts of all the English speeches and corresponding Chinese interpretations. Between late 2016 and 2018, enormous effort was devoted to building and analysing the corpus, including the development of a systematic and comprehensive approach for quality assessment. The main analysis investigated the difference between the interpretations with and without text of comparable speeches. It focused on three aspects of quality, namely content, form and delivery, drawing on the principle that a comprehensive quality assessment in interpreting requires examining different aspects of interpreters' output – for example, whether it sounds 'communicative' (Viezzi 2009); whether it achieves accuracy and completeness without distorting the original meaning (Moser-Mercer 1996); and whether it is linguistically correct and natural, conforming to the context and conventions of the target language (Pöchhacker 2001; Viezzi 1996). To some extent, this study was a follow up on Coverlizza's (2004) experiment which also analysed simultaneous interpretations with and without text of comparable speeches and shed light on the effect of working with text on simultaneous interpreters' output.

3.3.2.3. Experimental study

In the experimental study, a blind test was set up in the form of a web-based questionnaires to obtain users' perceptions and attitudes towards the quality of SI. Respondents were asked to listen and evaluate an interpretation delivered in their language, with or without text. Excerpts from the interpretations analysed in the corpus-based study were used as stimulus materials in this test. Regarding the target group, due to the unavailability of the original users' contact information, an alternative was chosen to survey individuals with a similar profile to that of

the UN users, whose backgrounds were identified through the first observation. The questionnaires were developed in English and translated into Chinese in late 2018. Given that users would not typically possess the necessary skills to evaluate the sense consistency of interpretations, it was decided to ask respondents to indicate their preferences regarding the form, style, intonation, and fluency of the interpretations. Respondents were also asked about their experiences with SI services and expectations of various SI output-related criteria. Between late 2018 and 2019, the questionnaire was distributed to the target group and the responses collected and analysed. By comparing respondents' preferences with the results of the corpus-based analysis, this study investigated the impact of the above-mentioned features on users' perceptions. By comparing respondents' expectations with their preferences, it also explored the correspondence between users' perceptions and requirements of SI services.

In short, this research adopted multiple methodological approaches, involved concurrent elements, and combined various perspectives for conducting three separate but complementary studies. Taken together these studies can provide a holistic view of the actual context where UN interpreters exercise their profession and a thorough comparative analysis of the quality of their output in SI with and without text, which will be presented in detail in the following study-specific chapters.

Chapter 4. Field Observation of the UN Conference Setting

'[…] when the speech was interpreted at the UN, interpreters most probably had the text.', wrote Marie Diur (2015: 90), then chief of the French booth at the UNOV. This reflects UN interpreters' routine practice, constituted largely by working in SI with text. However, little is known about why this interpreting mode is often used at the UN, and even less is known about in what conditions UN interpreters carry out this task. This chapter presents the study – based on field observation and interviews – that reveals where, why, how, and how often interpreters perform SI with text at the UN, and what their opinions are on this practice. It first explains the aim and process of the study, and then reports what the study found, which makes explicit not only UN interpreters' actual workplace, workload, workflow, and work style but also the specific context where other parts of this research are situated. Finally, it interprets the findings and outlines the conclusions of the study.

4.1. Objectives and research questions

The objectives of the study were to understand the actual context of the SI services offered at UN meetings and to obtain UN interpreters' opinions on the services, particularly on SI with text. Accordingly, three research questions were developed as below:

1. What is the working environment of UN simultaneous interpreters?
2. How do they perceive the speech style of UN delegates?
3. How do they experience and approach to their interpreting task, especially when scripts of read-aloud speeches are available to them?

To answer the first question, direct observations were conducted of two simultaneously interpreted UN meetings, focusing on their proceedings and environment, including booth conditions, and the major part of their interpreters' work and the types of speeches delivered there. To answer the second and third questions, a number of interviews were implemented at one of the meetings, eliciting interpreters' views on typical features of speakers' delivery style and the performance of SI with text at the UN.

4.2. Context and procedure

Two observations – one participant and the other non-participant – were conducted in Vienna and Geneva at two meetings organised by the UN Office for Outer Space Affairs (UNOOSA) and the UN Office for Disaster Risk Reduction (UNDRR), namely the 59th session of the Committee on the Peaceful Uses of Outer Space (COPUOS) and the 6th session of the Global Platform for Disaster Risk Reduction (GPDRR). The following explains why the meetings were chosen and how the observations were made.

4.2.1. COPUOS session

The study began in early May 2016 by seeking opportunities in Vienna, where this research was based, for observing on-site a simultaneously interpreted UN meeting. To achieve this purpose, the websites of the Vienna-based UN entities were screened for information on their publications of previous conferences and schedules of upcoming events. Especially, it was noticed that UNOOSA published a few digital archives of its previous, present, and forthcoming major meetings (e.g., COPUOS sessions). Among these archives, some were written records, such as agendas, participant lists, pre-meeting notices and transcripts of key statements; and some were multi-media recordings, like the audio of speeches and the corresponding simultaneous interpretations. Given such records, an observation could presumably benefit from complementary information about a meeting; therefore, a preliminary decision was made to observe a meeting of UNOOSA.

Based on my internship experience, which was interpreting in a dummy booth of the UNOV at the 58th COPUOS session, and the notice about the 59th COPUOS session (scheduled for June 2016), it was inferred that the latter would be similar to the former and be suitable for observation. Specifically, the 59th COPUOS session would be an open, formal conference, mainly attended by UNOOSA members, and simultaneously interpreted into the six UN languages. It would also, despite addressing outer space-related topics, discuss less technical issues than those dealt with by the meetings of the COPUOS subcommittees. Given these reasons and the timing of this research, it was finally decided to observe the session.

In order to gain permission for the observation, I emailed the head of the UNOV Interpretation Section, Marie Diur, explaining the motivation behind the study and requesting to observe the session on-site. In her reply, Ms Diur kindly approved this request and granted me access to the VIC from 9 to 10 June 2016. Additionally, she thoughtfully arranged for a dummy booth to be used for the observation. The booth was situated right next to the working booths in the room used for the session and would, during the two days, receive the same paper documents as would the working booths. This arrangement would thus allow me to observe quietly (through the glass walls of the booth), without disturbing delegates' and interpreters' concentration, the activities naturally taking place on the floor and in the working booths. For instance, I could observe whether delegates, while delivering a speech, read out loud from a script and whether interpreters (at least those in the adjacent working booth, i.e., the Spanish booth), while rendering the speech, worked with a copy of the script available in their hand.

According to the schedule of the session (which will be introduced shortly), a time plan and a list of focal points for the observation was prepared as below:

Meeting room
➢ Location
➢ Layout
➢ Facilities

Meeting
➢ Theme
➢ Programme
➢ Procedure
➢ Duration

Speech
➢ Length
➢ Language
➢ Features (e.g., read/accented or not read/accented)

Interpreters' work
➢ Work style
➢ Workflow
➢ SI modes

Booth
➢ Location
➢ Layout
➢ Facilities
➢ Availability of meeting materials

Figure 4.1. Focal points for observing the 59th COPUOS session

9 - 10 June 2016
7:30 - 8 am   security check & registration
8 - 8:30 am   arrival in the assigned booth & preparation
8:30 am - 6 pm   observation

Figure 4.2. Time plan for observing the 59th COPUOS session

In addition, it was planned to give particular attention during the observation to the work occurring in the Chinese booth. There were two reasons: first, I could understand the

interpretation from the booth and tell, through watching how the interpreters there performed tasks and soon afterwards verifying with them what I observed, whether a speech was rendered via SI with text; second, if the recording of the speech and interpretation were subsequently made accessible online (which, to my knowledge and the information given regarding that (see UNGA 2015), would be the case), it could be used for constituting an authentic corpus for further study.

On 9 and 10 June 2016, the observation went as planned (see Subsection 4.3.1). Before being analysed, the printed documents received during the observation (roughly 450 pages) were converted into electronic form and sorted into four types: UN resolutions, agendas, speaker lists, presentation slides, and statement texts.

4.2.2. GPDRR session

The second observation was carried out three years later. On 13 May 2019, I received an urgent assignment to work as a simultaneous interpreter in Geneva between 15 and 16 May 2019 for the 6th GPDRR session, one of the major events of UNDRR. The next day, when the assignment was confirmed, I received by email the relevant materials, including the session's agenda, programme, concept notes and SI assignment sheets (all in English). According to the assignment sheets, the interpreters would work daily from 9 am till 6 pm, and I would interpret from and into Chinese the meetings held in Room 1 of the main meeting site (to be introduced subsequently).

Besides preparing for the assignment (e.g., reading the materials and those accessed on the website of the session, such as the speakers' profiles, briefs of the session, and relevant agreements and treaties), I made the following preparations for the observation:

For reasons of efficiency and comparability in focus and time frame between the first and second observations, the previous list of focal points and time plan were reused with slight modifications. Moreover, considering that I could have the chance to interact with the other interpreters working for the session, a plan was made to interview them, during which the following questions would be asked:

1. How long have you been working as an interpreter for the UN?
2. What are the typical features of UN speakers' delivery style?
3. What is your experience with SI with text at UN meetings?
a) How often does this working mode occur?
b) How do you use text?
c) How do you perceive this working mode?

The observation and interviews were conducted on 15 and 16 May 2019 as planned (see Subsection 4.3.2). Before being analysed, the documents received before and during the observation (roughly 300 pages, all in electronic form) were classified into six types: SI assignment sheets, agendas and programmes, agreements and treaties, speaker lists and biographies, meeting briefs and background papers, and statement texts.

4.3. Findings

The 59th COPUOS session and 6th GPDRR session are similar to some other branches of the same family (UN meetings): they shared some elements in common but were different in other ways.

4.3.1. COPUOS session

4.3.1.1. Premises and work environment

The 59th COPUOS session took place between 8 and 17 June 2016 at the VIC. Its theme was the role of space and the UN sustainable development goals (SDGs). It gathered hundreds of representatives of its members, observers, and partners, among whom most were from government departments and specialised space agencies (see UNOOSA 2016c).

The room housing the session, named 'Board Room D', is a semicircle hall located on the fourth floor of the C Building, a main site for meetings at the VIC (see Figure 4.3 and Figure 4.4).
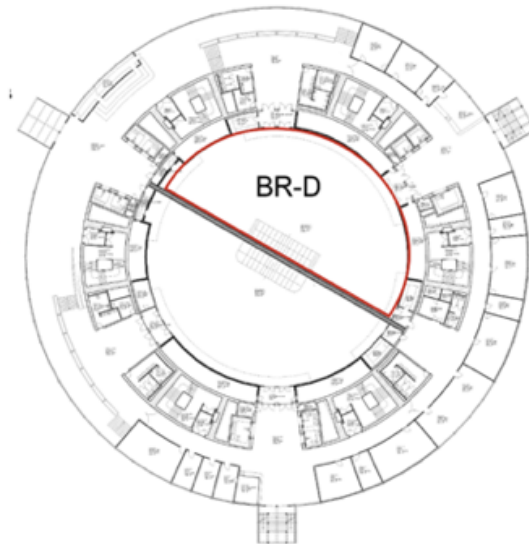
Figure 4.3. Plan of the 4th floor, C Building, VIC[7]

Figure 4.4. C Building, VIC

Surrounding the C Building are seven other buildings (the A, B, D, E, F, G and M Buildings) accommodating the VIC-based UN entities.

The Board Room D is a wood-panelled assembly room (see Figure 4.5). In the room, two large projection screens are mounted at the back of the stage. In front of the screens are a row of desks and two rows of chairs (the front row for people like the Secretary and Chair, and the

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[7] This figure is a modified version, retrieved on 16 September 2019 from <http://myconference.unov.org/#!/Orientation>.

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rear row for their associates). On the Chair's desk there are a gavel and a computer screen. On each of the desks are a writing pad, a stack of documents, a microphone device, a jug of water and glasses, and a nameplate inscribed with delegates' titles (or the names of delegates' groups). Apart from this, each desk drawer contains a wireless interpretation receiver with headphones. At a front corner of the stage, there is a podium, equipped with a microphone and computer screen. On both sides next to the stage is a row of chairs and desks for staff (e.g., conference clerks). These desks, some of which are equipped with computers, have the same objects as those on the stage.

Figure 4.5. Board Room D, C Building, VIC (viewpoint from the dummy booth)

In the audience area, four rows of desks spread across the floor, and each has almost the same objects as the desks on the stage, except for two nameplates showing the names of delegations. Behind each desk are two chairs (the front ones for chief delegates, and the rear ones for their associates). At the back of the audience area, near the main entrances, is another large projection screen.

There is also a mezzanine on the top of the area. It has fifteen built-in interpreting booths overlooking the floor (see Figure 4.6).
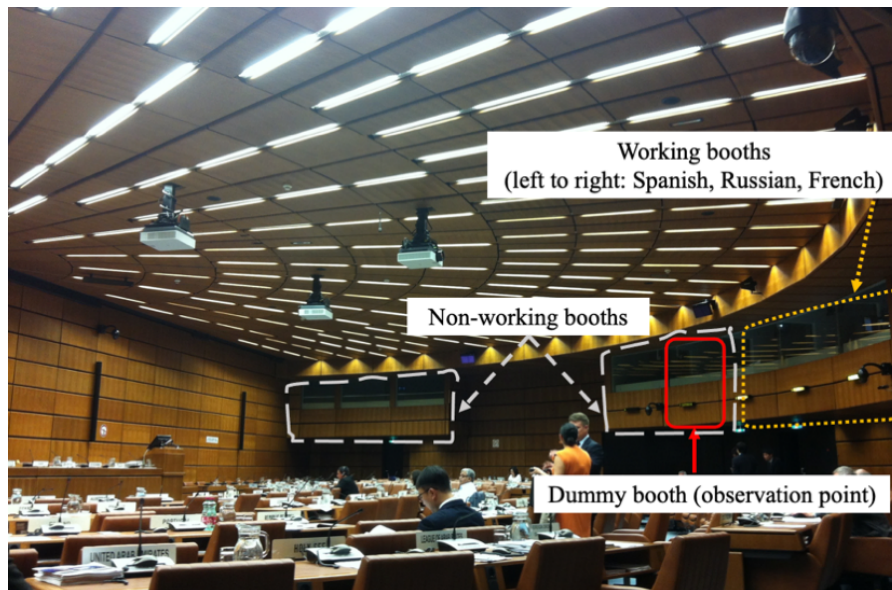
Figure 4.6. Interpreting booths, Board Room D, C Building, VIC

These booths, separated by glass plates, all have the same size (approximately 3.20 x 1.60 x 2.00 meters) and are soundproof, air-conditioned and Wi-Fi enabled; they also have several sockets and ceiling lights. One of the booths in the middle of the mezzanine is reserved for technicians, while the rest are for interpreters (see Figure 4.7). Specifically, the technicians' booth has a desk, two chairs and many small and big digital devices stored in racks and cases. The interpreters' booths each have three chairs and a desk, upon which are placed a lamp, a landline telephone, a suspended monitor and three interpreter consoles. Near the door of the booth there are a rubbish bin and a cupboard with shelves, on one of which are a jug of water and glasses. Outside each booth is a passage into the other booths, toilet, common room and staircases to the corridor of the fifth floor.
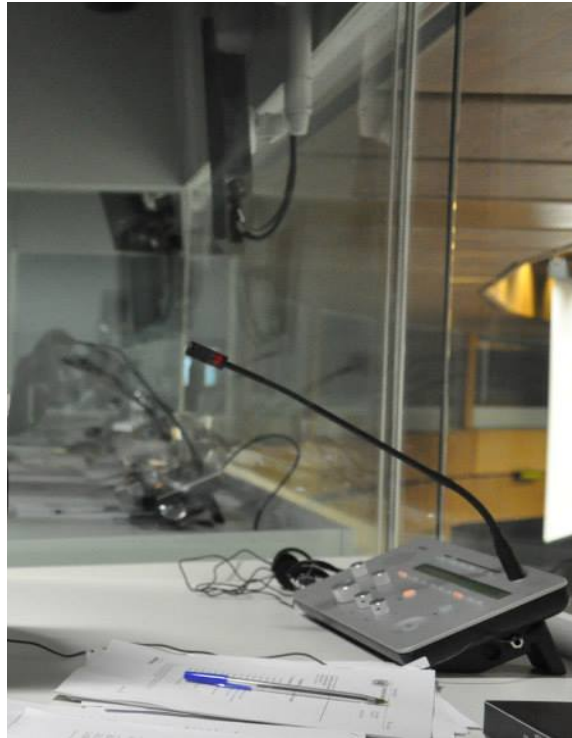
Figure 4.7. Interpreting booth, Board Room D, C Building, VIC

4.3.1.2. Programme

As illustrated in Table 4.1, the session was scheduled from 8 to 17 June 2016 between 10 am and 6 pm (excluding the weekend). Each day included two meetings, one in the morning and one in the afternoon, lasting three hours without intervals.

The meetings held on 9 and 10 June 2016 began with a general exchange of views (statements by delegates) and ended with technical presentations (by experts from specialised institutions). The two half-day meetings on 9 June 2016 addressed the same agenda items. However, this was no longer the case the following day (see the shading area).

Table 4.1. Programme of the 59th COPUOS session (UNOOSA 2016a)

	10 am - 1 pm	3 - 6 pm
First week	**Morning meeting**	**Afternoon meeting**
08/06/2016	Item 1. Opening of the session Item 2. Adoption of the agenda Item 3. Election of officers Item 4. Statement by the Chair Item 5. General exchange of views	Item 5. General exchange of views Item 6. Ways and means of maintaining outer space for peaceful purposes Item 7. Report of the Scientific and Technical Subcommittee on its fifty-third session Technical presentations

	Morning meeting	Afternoon meeting
09/06/2016	Item 5. General exchange of views Item 6. Ways and means of maintaining outer space for peaceful purposes Item 7. Report of the Scientific and Technical Subcommittee on its fifty-third session Technical presentations	Item 5. General exchange of views Item 6. Ways and means of maintaining outer space for peaceful purposes Item 7. Report of the Scientific and Technical Subcommittee on its fifty-third session Technical presentations
10/06/2016	Item 5. General exchange of views Item 7. Report of the Scientific and Technical Subcommittee on its fifty-third session Item 8. Report of the Legal Subcommittee on its fifty-fifth session Technical presentations	Item 5. General exchange of views Item 8. Report of the Legal Subcommittee on its fifty-fifth session Item 15. Other matters Technical presentations
Second week	**Morning meeting**	**Afternoon meeting**
13/06/2016	Item 5. General exchange of views Item 8. Report of the Legal Subcommittee on its fifty-fifth session Item 9. Space and sustainable development Technical presentations	Item 5. General exchange of views Item 8. Report of the Legal Subcommittee on its fifty-fifth session Item 9. Space and sustainable development Technical presentations
14/06/2016	Item 9. Space and sustainable development Item 11. Space and water Item 12. Space and climate change Technical presentations	Item 11. Space and water Item 12. Space and climate change Item 13. Use of space technology in the United Nations system Technical presentations
15/06/2016	Item 11. Space and water Item 12. Space and climate change Item 13. Use of space technology in the United Nations system Technical presentations	Item 10. Spin-off benefits of space technology: review of current status Item 13. Use of space technology in the United Nations system Item 14. Future role of the Committee Technical presentations
16/06/2016	Item 10. Spin-off benefits of space technology: review of current status Item 14. Future role of the Committee Item 15. Other matters Technical presentations	Item 10. Spin-off benefits of space technology: review of current status Item 14. Future role of the Committee Item 15. Other matters Technical presentations
17/06/2016	Item 16. Report of the Committee to the General Assembly	Item 16. Report of the Committee to the General Assembly

Furthermore, although I did not have the opportunity for observation on the other days, based on my previous experience with the COPUOS session, the meeting held in the morning of 8 June 2016 dealt mainly with welcoming and briefing delegates about the objectives and activities related to the session. The meeting held in the afternoon, as shown in the above table, contained the same agenda items as those in the meetings on the following day. As to the ones taking place between 13 and 17 June 2016, the discussion was mainly on the role of the COPUOS on SDGs.

4.3.1.3. Process

On 9 June 2016, I entered the VIC on time and was guided by Ms Diur to the arranged booth. There was no one besides us in the Board Room D. A few minutes later, at 8:40 am, a staff member came into the mezzanine, giving each working booth as well as the one, where I was staying, a stack of printed conference materials of the day. These materials included the programme, provisional agenda, speaker lists, UN resolutions, Chair's opening and closing remarks, and full scripts of many of the speeches to be delivered at the morning meeting.

According to the staff member, the delegates attending the session had been notified in advance to submit the copies of their statement texts for facilitating SI services, as can also be seen from the information below:

> Delegates are reminded that the work of the interpreters will be greatly facilitated if the texts of statements can be provided to the conference officers in Board Room D in advance of the delivery of the statements. At least 15 copies would be required for that purpose.
>
> (UNOOSA 2016b: 2)

In the following hour, that staff member continued bringing some printed speech scripts, in the original language only. A technician also tested the interpreter consoles in the working booths.

Meanwhile, the interpreters arrived one after another. When entering the booths, they first greeted their colleagues and then sat down to look through the materials. During reading, they used mobile devices (e.g., tablets) to consult electronic resources (e.g., term banks and dictionaries), and highlighted or underlined keywords, jotted down marks (e.g., slashes, brackets and circles) and added information (e.g., spelling out the full words of an acronym, and writing down the target-language expression of a phrase) on the materials (see Figure 4.8).

In this context, I am pleased to announce, that the first Slovak satellite named **SkCube,** Made in Slovakia, is about to be launched into the outer space this year. It belongs 山东无线电波 to a category of cubesat type satellites, weighs about one kilogram and is using radio-amateur frequencies] Its operational orbit will be 450-720 km above the surface of the Earth. It will orbit the Earth approximately every 90 minutes at a speed of [28,000 km per hour] The 2.8万km/h SkCube is made up of an on-board computer, an electricity supply system and a communications system. It also features a sensory system, an orientation control system and a small camera. The main experiment will concern the reception of very long radio waves coming from deep space and from the upper layers of the atmosphere. We look forward to this extraordinary event of the launch of historically the first self-standing satellite of the Slovak Republic in outer space, as it clearly demonstrates the potential of our country to successfully carry out space projects.

Mr Chairman,

Slovakia is well aware of the obligations imposed by the **international law** connected with the conducting of space activities and in the near future stands ready to commence with preparations of the national legislation in order to implement the UN treaties on outer space into national legal order. The UN treaties on outer space, including the 1967 Outer Space Treaty, have played a positive and important role in regulating national space activities, maintaining order in outer space and promoting international cooperation.

Figure 4.8. Example of a Chinese interpreter's notes on the copy of a speech script

Several minutes before 10 am, some interpreters closed the door, some wore headphones and adjusted the interpreter consoles, and some sorted out the materials and monitored the activities happening on the floor. Yet the session did not start at 10 am sharp, as announced. In fact, not everybody on the floor seemed ready: some staff were testing microphones and handing out materials, and some delegates were chatting, taking photos, speaking on the phone and so forth. A few minutes later, a broadcast was played to remind delegates to take their seats. At 10:07 am, a bell rang, signalling the commencement of the meeting. Then the Chair pounded the gavel, declared the meeting open and briefed the floor on the procedures and mandates. The meeting continued until adjourned at 1:05 pm, during which some agenda items were discussed for over an hour while others took less than half an hour.

The following three meetings proceeded similarly to the one mentioned above. Nevertheless, the morning meeting on the following day ended nearly 40 minutes earlier than scheduled. The afternoon meetings on both days were prolonged for about 20 minutes; yet neither of them was offered with SI services after 6 pm, when the interpreters stopped working.

Facing the situation, the Chair responded immediately by thanking the interpreters for their services when they were leaving the booths and requesting the delegates to speak in English. Interestingly, at the meeting on the afternoon of 9 June 2016, right after the Chair announced the discontinuation of SI services, a delegate started a speech by saying 'Thank you, Chairman.

The advantage of not having interpreters is that I can speak as fast as I want, and so brace yourselves.'

4.3.1.4. Speeches and interpretations

On 9 and 10 June 2016 (till 6 pm daily), sixty-six speeches were made on the floor. Forty-eight of these (73%) were in English, and eighteen (27%) in other UN languages. As shown in Table 4.2, read-out speeches – 85% in English – accounted for 77% of all speeches. Also, the texts of all the read-out speeches were provided in advance in the booths. Yet among them, those of two English speeches were not used because the speeches were cancelled (at the last minute) and replaced by two different speeches, also being read in English but from texts which were unavailable in the booths.

Table 4.2. Number of speeches and received speech texts (59th COPUOS session, 9-10 June 2016)

Language	Non-read speech	Read speech	Script
EN	7	41	39[1]
FR	1	1	1
ES	1	6	6
RU	2	1	1
ZH	0	1	1
AR	4	1	1

Notes:
[1]. *The number excludes the texts of the two cancelled speeches.*

In the Chinese booth, a total of four interpreters worked different shifts, with three of them teaming up at each of the meetings. As explained in Subsection 2.2.2, the interpreters had Chinese and English as their A and B languages respectively. When they worked from English into Chinese directly, which happened most of the time, thirty-nine of their interpretations (81%) were delivered via SI with text, and nine (19%) via SI without text. When they worked from Chinese into English directly, the interpretation was done via SI with text. Of all the interpretations (including the ones done via relay), forty (61%) were delivered via SI with text, and twenty-six (39%) via SI without text.

4.3.2. GPDRR session

4.3.2.1. Premises and work environment

The 6th GPDRR session officially took place on 15 May 2019 at its main site, the International Conference Centre Geneva (CICG).[8] Its theme was 'Resilience Dividend: Towards Sustainable and Inclusive Societies'. It gathered over 4,000 representatives of UNDRR members and partners as well as experts on disaster risk reduction.

The CICG is a congress centre, situated next to the UNOG (see Figure 4.9).

Figure 4.9. CICG[9]

There are five floors in the CICG, a basement and four above-ground levels, interconnected not only by staircases and lifts but also by escalators (see Figure 4.10).

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[8] The sub-site of the session was the Varembé Conference Centre (CCV), being only a few steps away from the CICG.

[9] This is a modified version, retrieved on 17 May 2020 from <https://www.geneve-int.ch/international-conference-centre-geneva-cicg-1#&gid=1&pid=1>.

Figure 4.10. Interior view of the CICG

Each of the floors is different. The basement has a security management centre, ten offices, and five rooms with 10-150 seats each. The ground floor has a registration area, an exhibition hall, a large foyer (where participants must pass through a security checkpoint and register before entry), and six rooms, each accommodating 20-700 persons (e.g., Rooms 2-4). On the first floor, there are a cafeteria, a big terrace, an exhibition area, and an auditorium with nearly 1,000 seats (i.e., Room 1). The second floor has a common resting area, twenty-nine offices, and six rooms with 20-70 seats each. The third floor has a VIP suite, a large terrace, and four rooms seating 20-140 people each (e.g., Rooms 5-6).

During the session, five of the rooms that hosted meetings (i.e., Rooms 1-4 and the combined Rooms 5 and 6) were provided with the services of live captioning (including English) and SI from and into the six UN languages. Only Room 1, where I worked and conducted the observation, was offered with sign language interpreting services.

Room 1 has a theatre-style layout with tiered seats facing a raised stage (see Figure 4.11). At the back of the stage are a conference backdrop and a giant projection screen. In front of them, chairs and desks are lined up in a row and decorated with flowers. Each of the desks is provided with bottled water, a folder, a microphone device, a wireless interpretation receiver with headphones, and a nameplate inscribed with speakers' positions (or the names of speakers' groups). At the right side of the stage stand the UN, Swiss and Geneva flags, a large vase of flowers, and a digital podium with a LED screen facing the audience. At the left side is a solid

blue backdrop used by sign language interpreters. Along both sides of the stage, near the main entrances, are areas with desks, chairs and lamps used by conference staff. Also, some banners and a projection screen are suspended above the areas.

Figure 4.11. Room 1, CICG (viewpoint from the Chinese booth)

Between the stage and audience seating area is a passage where a camera and computer screen are set up (facing sign language interpreters). The audience seating area is divided into two parts: a mezzanine and an orchestra. The orchestra is equipped with fixed chairs and desks, and each of the desks has the same objects as those on the stage, except for no water provided. The mezzanine, on the other hand, is simply equipped with fixed chairs, and these are smaller than those in the orchestra.

At the back and in the middle of the mezzanine, there are eight built-in booths. One of them is for technicians and the rest are for interpreters (see Figure 4.12).

Figure 4.12. Interpreting booth, Room 1, CICG

The interpreters' booths have almost the same features as those in the Board Room D: they are soundproof, air-conditioned and Wi-Fi enabled, installed with sockets and ceiling lights, separated by glass plates and have a size of 3.2 meters wide, 1.6 meters deep and 2 meters high. In each of them are three chairs and a desk which has a lamp, two monitors, and three interpreter consoles with headphones. Next to the door are a rubbish bin and an empty cupboard. Outside there is a passage to the other booths, common area, mezzanine seating area and staircases to the first floor.

4.3.2.2. Programme

The session was scheduled from 13 to 18 May 2019. It had a six-day programme packed with various events. The first two days were for preparation and consultation, the following three days were for official events and the last day for field visits (see Appendix I).

As demonstrated in Table 4.3, the days for official events – 15 and 17 May 2019 – were from 9 am to 6 pm (or the latest 7:30 pm) filled with a variety of meetings (e.g., the official statements, working sessions, ministerial roundtables, and award ceremonies). Some of the meetings lasted up to four hours, some (the majority) took 60-90 minutes, and some mere 30 minutes. On 15 and 16 May 2019, there were seven meetings in Room 1, namely a welcome session, an official opening ceremony, four high-level dialogues and a launch of the global assessment report (GAR), each of which lasted 45 to 90 minutes without intervals (see the shading area).

Table 4.3. Programme of the 6th GPDRR session between 15-17 May 2019 (UNDRR 2019)

WEDNESDAY 15/05/2019, DAY 1: TAKING STOCK				
Welcome Session 9:00-10:00 Room 1				
High-Level Dialogue 1 Progress made in implementing sendai framework – global and regional perspectives 10:00-11:30 Room 1				
Lunch 11:30-14:00 Restaurant 1st Floor	**Official Opening Ceremony** 12:00-12:45 Room 1			
	Launch of the GAR 12:45-13:15 Room 1	**5 Side Events** 13:00-14:30 Rooms: Geneva (CCV), 7/8, 12, 14, 18	**2 Learning Labs** 13:00-14:00 Rooms: Nyon, Vevey (CCV)	
	Press Conference 13:00-14:00 Room 4			
Official Statements 13:00-18:00 Room 2	**Working Session** Global assessment report 2019 14:30-16:00 Room 3	**Special Session** Women leadership in DRR 14:30-16:00 Room 4	**High-Level Dialogue 2** Advances in national and local DRR strategies (Target E) 14:30-16:00 Room 1	
	Working Session National and local DRR strategies (Target E) 16:30-18:00 Room 3	**Ministerial Round Table** DRR, climate change and SDGs 16:15-18:15 Room 5/6	**Working Session** Sendai framework implementation 16:30-18:00 Room 4	
Reception Hosted by Switzerland (by invitation only) 18:30-19:30 Room TBC				
Innovation Platform 9:00-18:00				
Ignite Stage 9:00-18:00				
THURSDAY 16/05/2019, DAY 2: RISK-INFORMED PUBLIC AND PRIVATE INVESTMENTS				
Official Statements 9:00-13:00 Room 2	**Side Event** 9:00-10:30 Room Geneva (CCV)	**High-Level Dialogue 3** Risk-informed public and private investments 9:00-10:30 Room 1		
	Ministerial Round Table Risk-informed investment & economics of DRR 11:00-13:00 Room 5/6	**Working Session** Unlocking the resilience dividend 11:00-12:30 Room 3	**Working Session** Build back better & World Radiocommunication Conference outcomes 11:00-12:30 Room 4	
	2 Learning Labs 12:30-14:30 Room: Nyon, Vevey (CCV)	**5 Side Events** 12:30-14:00 Rooms: Lausanne (CCV), 7/8, 13, 14, 18	**Lunch** 12:30-14:00 Restaurant 1st Floor	

	Working Session Innovation DRR investment modalities 14:30-16:00 Room 3	Working Session Health in all disaster risk management strategies 14:30-16:00 Room 4	High-Level Dialogue 4 Leaving no one behind – investing in local action and empowering those most at risk 14:30-16:00 Room 1
Official Statements 13:00-18:00 Room 2	Working Session Promoting locally-led DRR/disaster risk management 16:30-18:00 Room 3	Working Session Disaster displacement & DRR 16:30-18:00 Room Geneva	Working Session Global risk assessment framework 16:30-18:00 Room 4
Sasakawa Award Ceremony & Reception 18:15-19:15 Room 2			
Innovation Platform 9:00-18:00			
Ignite Stage 9:00-18:00			
FRIDAY 17/05/2019, DAY 3: CLIMATE CHANGE ACTION & DRR FOR ALL			
	High-Level Dialogue 5 Pursuing Coherence Between the Sendai Framework, the 2030 Agenda for Sustainable Development and the Paris Agreement 9:00-10:00 Room 1		
Official Statements 9:00-12:00 Room 2	Working Session National DRR strategies and climate national adaptation plans 11:00-12:30 Room 3	Working Session The role of green, blue and grey infrastructure in reducing disaster risk 11:00-12:30 Room 4	Working Session What role financial instruments can and cannot play in disaster risk management 11:00-12:30 Room Geneva (CCV)
	2 Learning Labs 12:30-14:30 Rooms: Nyon, Vevey (CCV)	**5 Side Events** 12:30-14:00 Rooms: Lausanne (CVV), 7/8, 13, 14, 18	**Lunch** 12:30-14:00 Restaurant 1st Floor
	Working Session Integrating risk management ecosystem and water-related risks 14:30-16:00 Room 3	Working Session Multi-hazard early warning systems 14:30-16:00 Room 4	Working Session Cities on the forefront of achieving inclusive climate and disaster resilience 14:30-16:00 Room 2
Risk Award Ceremony 16:30-17:00 Room 1			
Closing Ceremony 17:15-17:45 Room 1			
Innovation Platform 9:00-18:00			
Ignite Stage 9:00-18:00			

4.3.2.3. Process

On 15 May 2019, I entered the CICG on time at 7.40 pm. A few minutes later, on my way to the assigned booth, I received by email the text of an English speech to be delivered at the welcome session (and, between 10 and 10:30 am, those of several English speeches to be made at the other meetings in the morning). When stepping into the booth, I greeted two colleagues, who had arrived earlier, and sat down to read the received text. Meanwhile, I checked with the colleagues the Chinese equivalents of several GPDRR-specific terms and the consistency of the documents that we had received. A technician entered the booth at 8:30 am and tested the interpreter consoles. Then came the interpreter team leader who sent her greetings and briefed us on the work plan for the day.

After that, the colleagues and I drew lots to decide our work rotation, which was, according to them, a traditional way of allocating tasks in the Chinese booth at the UN. I was chosen to be the first to interpret and would alternate every twenty minutes (which echoes the description in Subsection 2.2.2).

A few minutes before 9 am, I wore headphones and adjusted my interpreter console to stand by. Yet at the time, the people on the floor did not seem ready for the welcome session. Some technicians were still testing devices (e.g., loudspeakers and lighting system); some staff were distributing conference materials and interpretation receivers; some participants were chatting, taking photos, walking around and so forth. Then, at 9 am, a staff member on the stage spoke into a microphone, reminding participants to take their seats. Ten minutes later, the welcome session began and ended at 9:55 pm, five minutes ahead of schedule.

Following this was the first high-level dialogue from 10 to 11:30 am, the official opening ceremony from 12:05 to 12:45 am, the launch of the GAR from 12:45 am to 1:15 pm, a 75-minute break and the second high-level dialogue from 2:30 to 4:05 pm. On the next day, only two meetings were held in Room 1, namely the third and fourth high-level dialogues which took place from 9 to 10:35 am and from 2:30 to 4 pm, respectively.

On 15 and 16 May 2019, the meetings of Room 1 started with the Chair's, or the moderator's, opening remarks. Nonetheless, they proceeded differently. The welcome session, official

opening ceremony and launch of the GAR involved simply the keynote speakers' statements, each lasting roughly seven minutes. The first, second and third high-level dialogues were each divided into two parts: the first part was the keynote speakers' statements that were also seven minutes each, and the second part was a follow-up interaction, between the audience and keynote speakers, that lasted 30-50 minutes. The fourth high-level dialogue was similar to a moderated questions and answers session, during which the keynote speakers did not make formal statements, as their counterparts had done in the previous meetings, but gave comments to topics and questions raised by the audience or moderator.

Moreover, as shown in Table 4.4, the high-level dialogues had a moderator and 5-7 keynote speakers. The welcome session and official opening ceremony had two chairs and 4-5 keynote speakers. The launch of the GAR invited three keynote speakers, but it was neither chaired nor moderated.

Table 4.4. Number of people onstage (6th GPDRR session, Room 1, CICG, 15-16 May 2019)

Meeting	Keynote speaker	Co-chair	Moderator
Welcome Session	4	2	0
Official Opening Ceremony	5	2	0
Launch of the GAR	3	0	0
High-Level Dialogue 1	7	0	1
High-Level Dialogue 2	6	0	1
High-Level Dialogue 3	5	0	1
High-Level Dialogue 4	5	0	1

4.3.2.4. Speeches and interpretations

On 15 and 16 May 2019, thirty-three speeches were delivered in Room 1, one of them online. Twenty-six of them (79%) were in English, and seven (21%) in other UN languages, except for Chinese. The online speech (in English) was recorded on video, but it was not known whether it was read. In addition, the thirty-three speeches excluded those made at the fourth high-level dialogue because, as just explained, they appeared informal and were frequently interrupted, thus being almost unable to be categorised or quantified.

Table 4.5 presents the information on the speeches delivered on-site. Similar to what was observed at the 59th COPUOS session, read-out speeches – 69% in English – accounted for 88% of all speeches. The texts of the read-out speeches were all available except for those of four speeches, made in English, Spanish, French, and Arabic respectively.

Table 4.5. Number of on-site speeches and texts sent to interpreters (6th GPDRR session, Room 1, CICG, 15-16 May 2019)

Language	Non-read-aloud speech	Read-aloud speech	Script
EN	3	22	21
FR	0	2	1
ES	1	2	1
RU	0	1	1
ZH	0	0	0
AR	0	1	0

In the Chinese booth, the interpreters (including myself) had Chinese and English as their A and B languages respectively. One interpreter, despite having French as her C language, did not work into or from this language. As no speeches were made in Chinese, the interpreters worked from English into Chinese all the time and delivered a total of thirty-three interpretations (including the ones done via relay). Twenty-one of these (64%) were done via SI with text, and twelve (36%) via SI without text.

4.3.2.5. Interviews

On 15 and 16 May 2019, when completing the SI assignment, I approached some of the interpreters, who were off duty and outside the booths at the time, for interviews. The interviews were informal, anonymous, and semi-structured. Also, they were recorded only with my hand-written notes. The reasons were the following: 1) the interpreters could express themselves freely and articulate their opinions comfortably; 2) I could follow up for interesting or unforeseen answers and ask the planned questions that were central to the study. The interviews were conducted in both Chinese and English. The former language was used with Chinese interpreters; and the latter one with interpreters who covered English, French, Russian, Arabic or Spanish.

A total of 12 out of the nearly 80 interpreters, two males and ten females working in different rooms of the CICG, took the interview one by one. Four of them were from the Chinese booth, and the rest were from the booths encompassing the other five UN languages. In addition, all were AIIC members, with two to fifteen years of experience in working as contracted freelance interpreters for the UN. Each of them was interviewed for five to ten minutes. Three withdrew during the interviews when they had to leave (e.g., receiving phone calls, or going to booths to work). Despite this, the prepared questions were asked and answered by all the interpreters.

As far as UN delegates' speech style was concerned, the interpreters shared the following views. First, many delegates, when making a speech in one of the UN languages, had accents and used numerous UN terms and acronyms as well as professional jargon. For example, one interpreter mentioned, '联合国就像一个多元的大熔炉，参会者讲各种口音，这一现象是不可避免的，也是我们要应对的。' (The UN is a melting pot of diversity. Its conference participants speak with various accents. This is an inevitable phenomenon and is also what we must deal with.). Another said that usually, in UN conferences, delegates gathered to address the issue familiar to them and, for reasons of brevity and consistency, used in their statements as much as possible UN terminology, regarding particular entities, documents and so forth, and the abbreviations that were common to their community but not common to interpreters. Second, many (almost all) delegates prepared a speech script that was densely written and full of long sentences with complex syntax (e.g., multi-clause sentences). As one interpreter stated, '我很少遇到正式发言时不照稿宣读的代表。' (Seldom have I seen a delegate who, while making a formal speech, does not read aloud from a script.). Another added, '讲稿内容丰富、高度凝练，有很多复合句……翻它就像做笔译一样。' (The script of speech has rich but highly concise content and contains many compound sentences. […] Interpreting that is like doing translation work.). Third, many delegates read from the script hastily, with great rapidity of utterance, and in a monotonous tone. According to some interpreters, most UN delegates did not speak in a communicative manner. Instead, they delivered a speech as fast as they could, even when that meant neglecting to pause in a natural rhythm, speak with a varied tone and cadence of voice, and to let said discourse be understood clearly against such delivery.

When asked about their experience with SI with text, the interpreters pointed out that this interpreting mode was in effect the main mode used in UN booths. If a text was available, they would use it most of the time. As one interpreter described, he would read over the text when the time was ample (like half an hour); otherwise, he would simply skim the text to ascertain the gist and, meanwhile, scan for technical terms. Yet not each of the interpreters would use a text if it was sent to them at the time or after the speech started. Two interpreters would put it aside and do SI without text. Their explanation was that a text, if not made available to them prior to its delivery, would become a disturbing factor rather than becoming helpful, not only in receiving (comprehending) but also in transmitting speech information. The others, unlike these interpreters, would still work with a text even if it arrived in the middle of the speech.

Two of them explained that they did so in part because speakers sometimes monitored their interpretations and might complain, though rarely, if what they rendered was not literally consistent with the text.

As regards their perceptions of SI with text, the interpreters shared the opinion that using text during SI enhanced their performance, especially in rendering details (e.g., numbers, dates and names) and comprehending accented and inarticulate speeches (provided speakers read out verbatim). On the other hand, they acknowledged that working in this interpreting mode was far more mentally taxing – particularly concerning coping with dual input – than working in SI without text. Furthermore, seven interpreters stated that they felt overstressed and insecure about their delivery of interpretations while working in this mode, especially while dealing with fast-paced speeches. Interestingly, three of them unanimously described themselves as 'interpreter robots', by which they meant the way they spoke when working at the limit of their processing capacity in the exercise of SI with text. As one of them said, '我得花全部精力。有时（说话）快得连气都喘不上，更不用说停顿，就跟机器人讲话一样。' (I must devote all my strength. Sometimes I speak too fast without pausing for a breath or break, just as a robot does.). (What another mentioned will be quoted in Subsection 4.4.5). Simply put, these interpreters thought that they uttered interpretations in a tone of voice which appeared robotic.

To end this subsection, it seems appropriate to quote an interpreter who said, '这（带稿同传）是联合国做口译工作的一大特点。给代表们的演讲口译不容易，带稿同传则难上加难。' (This (SI with text) is a predominant feature of interpreting at the UN. Interpreting delegates' speeches is hard; doing this via SI with text is even harder.).

4.4. Discussion

Based on the findings mentioned above, the study has drawn the following conclusions:

4.4.1. High incidence of English and read-aloud speeches

First, English speeches are prevalent at UN meetings, and so are read-aloud speeches. At the observed COPUOS and GPDRR sessions, the speeches delivered in English accounted for the majority (about 80%) of all speeches, and the same proportion applied to the read-aloud speeches. This proportion not only demonstrates a significantly high occurrence of the two types of speeches but also corroborates the information, provided by Diur (2015) and Baigorri-Jalón and Travieso-Rodríguez (2017), that English is the dominant language used at the UN and that the speeches delivered there are typically not improvised but read from scripts. The reasons for the common occurrence of read-aloud speeches in UN conferences were discussed in Subsection 1.2.2. A possible explanation as to why most speeches made at the UN are in English is that, as discussed in Subsection 2.2.4.1, it is the mother tongue or second or foreign language for the majority of UN delegates who do not speak or know other UN languages well enough.

4.4.2. SI in Chinese booths: dominant in one direction

The second conclusion is that, although the UN Chinese booth is two-way, most interpretations are done from English into Chinese. As evidenced by the data obtained from the 59th COPUOS session, nearly all the interpretations from the Chinese booth (with one exception) were from English into Chinese. This proportion was even higher for those from the Chinese booth (of Room 1) at the 6th GPDRR session because the interpretations were all from English into Chinese. These findings thus confirm the account given by Baigorri-Jalón (2004: 148) that UN Chinese interpreters work 'well over 90%' of the time from English into Chinese. The reason is self-evident: despite being a UN language, Chinese is seldom spoken unless it is used by Chinese delegates in a conference. As a result, UN Chinese interpreters work into their mother tongue much more often than into English.

4.4.3. Delegates' speech style

Another conclusion is that delegates, when taking the floor at UN meetings, are allotted a rather short speaking time. At the observed COPUOS session, 640 minutes were allotted to the

Chair's remarks and 66 statements (excluding the ones made after 6 pm). This is to say that each of the speakers had a maximum of nine minutes. By comparison, the average time left for the speakers at the observed GPDRR session was even less – seven minutes for each. These calculations indicate how small an amount of time UN delegates are offered to speak. The reason behind the time limit is obvious: with budget constraints, heavy workload and long lists of speakers, UN meetings are usually scheduled tightly and, consequently, delegates are requested to keep to the time limit. Furthermore, if a meeting does not start on time (or the previous one finishes late) and is shortened from its intended length, delegates will need to finish their remarks in a shorter time frame. For example, the official opening ceremony of the 6th GPDRR session was initially scheduled to take 45 minutes, which allowed each of the speakers to speak for nine minutes. Nonetheless, it started five minutes later than scheduled, and ten minutes – a quarter of its total duration – devoted to a stage show. Thus the speakers had to make a speech lasting no more than six minutes, two thirds of the original time.

Fourth, UN delegates speak fast and hardly slow down the speed of delivery. This conclusion is supported by the interpreters' responses during the interviews, which indicate that many delegates at UN meetings speak at a high (or an accelerated) rate. UN delegates' fast-paced delivery style may be associated with two factors: tight time constraints and the reluctance to shorten a speech. The former has been discussed. As to the latter, it was found at both sessions that many speakers read from a written script verbatim without abridging or condensing the content of their speeches, even in the face of time pressure. In UN conferences, where time for full statements is limited, delegates thus have a tendency to resort to fast speech delivery so as to comply with time constraints because the faster the speech, the more information can be articulated.

Fifth, as found in the analysis of the interviews and as stated by Shermet (2018) and Baigorri-Jalón (2004), the typical speech made by UN delegates is dense, accented, monotonous, and structurally and grammatically complex. The explanation for this conclusion was provided in Subsection 2.2.4 and hence will not be repeated here.

4.4.4. Interpreters' use of text during SI

Another conclusion is that SI with text is a very common practice in UN booths. This is evident from the findings: at the observed sessions, over 60% of all interpretations from the Chinese booth were delivered via SI with text; the interviewed interpreters – not solely the Chinese interpreters but also those who covered other UN languages – confirmed that SI with text was the typical and main interpreting mode used at the UN. Also, the findings are in line with the evidence presented by Diur (2015) – SI with text is what UN interpreters perform mostly and daily. The reason behind UN interpreters' frequent use of text during SI can be inferred from two sources. Firstly, according to the staff member who sent printed documents to the booths during the 59th COPUOS session, the delegates were requested to share the texts of their statements prior to delivery in order to help interpreters prepare for the meeting. This was later supported by the fact that the interpreters received in advance the texts of most statements, and the same was observed at the 6th GPDRR session. Second, most of the interviewed interpreters would work with a text whenever it was accessible, and some did so partly in order to avoid complaints from demanding delegates. The evidence thus corroborates what was discussed earlier: interpreters at UN meetings work in SI-with-text mode very frequently because many delegates not only read from a text throughout a speech but also provide interpreters with the text; and in doing so, some delegates expect 'perfect' interpretations (as also reported by Shermet (2018)).

4.4.5. SI with text: a 'frenemy' to interpreters

Lastly, and most importantly, interpreters regard SI with text as a double-edged sword. This conclusion is drawn in view of the responses collected from the interviews. On the one hand, the interpreters agreed that using texts during SI assisted them to grasp the main ideas and details. On the other hand, they felt overwhelmed by stress or, more precisely, the huge cognitive demand of handling concurrent dual input and were concerned about its adverse effects on their production (see also Subsection 1.2.5). The cause of the interpreters' concern about the possible deterioration in the quality of their SI delivery can be understood by taking the following examples. During the interviews, three interpreters referred to themselves as 'robots' in doing SI with text because they reached a cognitive saturation point (or in their words, 'breaking point', 'end of my efforts' or '精力的极限' (the limit of efforts)) and had

little spare capacity for embellishing the delivery of their interpretations with, for instance, proper rhythm and intonation. As said by one of them, 'Sometimes I speak in a flat voice and barely have time to breathe before rendering the next chunk of information. This may make me sound like a robot. Having a pleasant delivery is important, but not at the cost of burning myself out.'

In summary, the study has evidenced the high incidence and prevalence of the use of SI with text as well as read-aloud speeches at UN meetings. Although these speeches are often perceived to be difficult to interpret (i.e., fast, dense, complex, accented, and monotonous), the corresponding scripts are usually shared in advance with interpreters. Yet while working with text, interpreters still become overburdened, show concern about the risk of cognitive overload and a decline in their performance. This is how interpreters perceive their work in SI-with-text mode. Yet does this working mode affect their output? Answering this question requires an in-depth investigation, as presented in subsequent chapters of this study.

Chapter 5. Corpus-Based Analysis of Quality in SI with Text

Shortly after the observation described in Chapter 4, the audio recordings of the 59th COPUOS session – including all simultaneous interpretations – were made available online. From that moment began the process of building and investigating an abundant natural corpus – formed mainly by the recordings of the observed meetings or, more specifically, of the read speeches and corresponding simultaneous interpretations delivered by the interpreters there working with and without text. This chapter provides a detailed account of the study based on the corpus, analysing the specific difference in quality between output in SI with and without text. It first explains what the study intended to achieve, how the corpus was built and what its components were, followed by describing the methodology employed. This chapter then presents and discusses the findings showing especially how and why interpreters' output may vary between using and not using text during SI.

5.1. Objectives and research questions

The objectives of the study were to understand how interpreters' output could be impacted by using speakers' scripts in SI. The following research questions were formulated (gathered and extended from Subsection 3.1):

1. Is there a difference in simultaneous interpreters' output quality when they interpret a read-aloud speech with the script available in the booth (SI with text) compared to working without the script (SI without text)?
2. If so, what is the impact of SI with text on interpreting quality with regard to:
   - content-related features, namely accuracy and completeness?
   - form-related features, such as syntax and lexical choices?
   - delivery-related features, such as fluency and intonation?

In line with the research questions, it was hypothesised that performing SI with text improves the content (i.e., the level of accuracy and completeness) but negatively impacts the form and delivery (e.g., fluency and syntax) of interpreters' output. To answer the research questions and test the hypotheses, the study took a corpus-based approach, using a collection of the scripts

and recordings of the read English speeches and the corresponding Chinese simultaneous interpretations made during the observed 59th COPUOS session. A comparative analysis was made between the interpretations with and without text in terms of various features associated with content, form, and delivery.

5.2. Corpus building

With the aim of replacing the verbatim transcripts of the COPUOS meetings (see UNGA 2011, 2015), UNOOSA published the digital recordings of the speeches delivered at the 59th COPUOS session and the corresponding simultaneous interpretations into all UN languages. This spurred the development of an authentic parallel corpus for the study, mainly composed of the recordings and the written materials gathered in the observation.

5.2.1. Downloading and editing the audio materials

The recordings of the 59th COPUOS session available on the UNOOSA website[10] were divided into 16 groups according to the time (i.e., morning or afternoon) and date (i.e., 8/9/10/13/14/15/16/17 June 2016) of the associated meeting. There were in each group seven single-track audio files which individually lasted 3-4 hours: one was the original sound recording of the meeting, and the remaining six were the recordings of the simultaneous interpretations into English, French, Spanish, Russian, Arabic and Chinese (all in MP3 format and with clear sound).

These recordings were highly relevant to the research interest (i.e., SI with text of read English speeches into Chinese) and could be examined in depth to answer the questions of this study when supported by the data collected previously in the observation. Given this, and that the observation took place only between 9-10 June 2016, I downloaded from the website the eight recordings of the morning and afternoon meetings on the two days that comprised the original version and Chinese interpreted version. Besides the Chair's remarks (i.e., updates, opening and concluding remarks, and the introduction of the programme and speakers; all in English), the original version included mostly the delegates' speeches (i.e., oral statements made on

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[10] https://www.unoosa.org/oosa/audio/v2/meetings.jsp?lng=en.

behalf of their delegations), of which 48 were in English – 41 read-aloud and 7 not read-aloud – and 18 in other UN languages (see Table 4.2). The interpreted version included primarily the interpretations of the 66 speeches provided by four Chinese interpreters (A, B, C and D) who had worked in various team combinations in the observed meetings (see Subsection 4.3.1.4).

These recordings, once downloaded, were edited using the software Adobe Audition (version 9). Specifically, I deleted the parts covering the periods before the meetings started, when the participants were preparing on site (roughly 20 minutes in total), and after the interpreters discontinued their services when the meetings were no longer interpreted (from 6 pm onwards on both days; about 40 minutes in total). Furthermore, as the original-version recordings were each a mix of the Chair's remarks and delegates' speeches, I referred to the related logs of speakers available on the website (including their language, titles or delegations, and the onsets and offsets of their speeches) and divided the recordings into separate files named in the format 'Day/Month/Year-Time-Speaker-Language-Substance' (e.g., '09/06/2016-10:10:41AM-Egypt-AR-Speech'), each representing one speech. I also referred to the observation notes (with information on who was, at a certain time, interpreting a certain speech into Chinese[11]) and divided the interpreted-version recordings into separate files named in the format 'Day/Month/Year-Time-Speaker-Language-Substance-Interpreter' (e.g., '09/06/2016-10:10:41AM-Egypt-AR-Interpretation-B'), each representing one interpretation.

Furthermore, referring to my notes on which of the speeches were or were not read by the delegates,[12] I picked out the files of the 41 read English speeches and 41 corresponding Chinese interpretations. The total duration of each set of files was about 334 minutes. The files were sorted by date and meeting into folders labelled accordingly. (The remaining files were saved in another folder.)

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[11] I could tell in the observation which of the Chinese interpreters was interpreting by watching from the glass-panelled dummy booth (see Figure 4.7) and using the interpreter desk there (with Chinese selected as the listening language). Also, the indicator light on the microphone into which the interpreter was speaking was on, and this was visible to me.

[12] I could tell in the observation whether the delegates read aloud when addressing the floor by watching and listening to them from the dummy booth, looking at the monitor there and reading the speech scripts received.

5.2.2. Scanning and editing the speech scripts

During the observation, I received in the dummy booth the printed scripts of 51 speeches (about 300 pages in total). All of them, except for one written in Russian and translated into English paragraph by paragraph, were original (not translated). Two of them, in English, were not used because the corresponding speeches were cancelled; whereas the rest, 39 in English (excluding the one with translation) and 10 in other UN languages, were used and read aloud (see Table 4.2). For backup and documentation purposes, these scripts were scanned into PDF format using a Zeutschel Zeta book scanner and saved in a folder where each of them was named in the format 'Day/Month/Year-Time-Speaker-Language-Substance'.

The scripts of the 39 read English speeches (of approximately 40,000 words, excluding the titles and subtitles[13]) were converted into editable Word files. Also, I listened to the original recordings while reading the scripts, identifying discrepancies between the two and incorporating the delegates' amendments in the scripts (in Word format). As shown in Figure 5.1, utterances added by the speaker (not written in the script) were added in bold, those omitted were crossed out, and those altered (e.g., corrections, repetitions, synonyms, and slips of the tongue) were underlined.

Since this is the first time our delegation is taking floor, let me congratulate you on having the position of the Chair of this Committee and also by compliments to the first vice Chair and the second vice Chair of the Committee. Mr Chairman,

India believes that Outer Space should be an ever expanding frontier of cooperative endeavour rather than an area of conflict and contestation. This places a responsibility on all space faring nations to contribute to international efforts to safeguard outer space as the common heritage of humankind and preserve and promote the benefits flowing from ~~advanced~~ advances made in space technology and its applications for all. As a ~~major~~ space faring nation with wide ranging interests, we support the collective efforts to strengthen the safety, security and long-term sustainability of outer space. There is also a need for greater coherence and coordination with the Scientific and Technical Sub-committee in addressing issues of immediate concerns such as space debris, near earth objects, collision avoidance, space weather, space traffic management, registration of space objects, ITU allocations, ~~etc.~~ to name a few.

Figure 5.1. Example of documenting the discrepancies between the scripts and speeches

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[13] The titles and subtitles were mostly the names of the session and relevant delegations, some also including the date and location of the session.

5.2.3. Transcribing the speeches and interpretations

There were two read English speeches (one 3-minute and one 7-minute) whose scripts were unavailable in the dummy booth. These were therefore transcribed verbatim with punctuation from the recordings without using transcription tools or software. The resulting Word documents (consisting of about 1,300 words) were named in the format 'Day/Month/Year-Time-Speaker-Language-Substance'. The same procedure was applied to transcribing the interpretations of the read English speeches (lasting around 180 minutes) provided by two Chinese interpreters (A and B) (see Subsection 5.4.1.1). The transcribed files (with about 36,000 words) were named in the format 'Day/Month/Year-Time-Speaker-Language-Substance-Interpreter'.

The transcripts were checked against the recordings until no discrepancies were found between the two. The transcripts of the speeches and interpretations were sorted into two folders labelled accordingly. Copies of the files were saved for subsequent annotation in the analysis.

All folders were saved on my computer. The corpus thus consisted of the printed files and electronic files including recordings, scripts and transcripts of the read English speeches and their interpretations into Chinese.

5.3. Method of analysis

Analysing the corpus proved a very complex and time-consuming endeavour. With the aim of identifying a set of comparable interpretations with and without text, a comprehensive analysis of the corpus materials was performed in which a variety of features were measured.

5.3.1. Source speeches

5.3.1.1. Legibility

To ascertain whether the scripts were legibly formatted or printed, I looked closely at the scripts, especially their stylistic elements (e.g., font, spacing, colour, letter size and alignment on the page) and noted down those which had formatting issues (e.g., distracting colours) or printing defects (e.g., smudges) that made the content or parts of it unreadable. It turned out that one of the scripts, used by the delegate of the Czech Republic, had missing pages (i.e., only the first page was printed) and two, used by the delegates of Iran and the European Space Agency, had faint print on one page out of 7 and 4, respectively, (see Figure 5.2 for an example).

Figure 5.2. Faint print in a received printed script

5.3.1.2. Terminology

The speeches all focused on outer space, so I decided to assess in each of them the proportion of outer space-related terms that can be assumed to require more cognitive effort to process than common words (see Gile 2009). The terms were identified by reading the relevant transcripts and edited scripts and with the help of a terminologist (holding a PhD in translation and terminology studies with years of experience working in the aviation and aerospace sector), the UN Terminology Database ('UNTERM') and other references (e.g., 'Dictionary of

Technical Terms for Aerospace Use'[14]). For quantification purposes, the number of the words that constituted a term was counted, and the proportion of terms was calculated by dividing the number of the tokens of these words by the total word count in each source speech. Tokens (rather than types) of terms were used based on my review of the scripts and transcripts showing that the level of recurrence of terms was not very high.

5.3.1.3. Syntactic complexity

Given that the source speeches used more complex syntax than spontaneous speeches (see Subsection 2.2.4.2), I considered it useful to assess in each of them the proportion of non-simple sentences that can be assumed to require more cognitive effort to process than simple sentences (Meuleman and Van Besien 2009). Simple sentences contain only one clause, having a subject and a predicate; non-simple (or composite) sentences consist of multiple clauses (Diessel 2004; Lyons 1999). To help identify the composite sentences in the scripts and transcripts, I made a list that included the common indicators (e.g., coordinating conjunctions and subordinating conjunctions) used in the clauses of composite sentences (see Table 5.1).

Table 5.1. Indicators and examples of clauses[15]

Independent clause	
Semicolon with/out transition words: e.g., in conclusion, however, meanwhile, similarly, next, in addition, also	(Source: '09/06/2016-04:24:00PM-Brazil-EN-Speech') 'Space should be …; all countries are …; outer space and its resources cannot be to ….; space exploration activities should be …; no efforts should be...'
Coordinating conjunction: e.g., and, but, or, nor, yet, for	(Source: '09/06/2016-03:55:16PM-Slovakia-EN-Speech') 'Slovak delegation fully allies with the statement of the European Union and we would like to add few remarks in our national capacity.'
Dependent clause	
Subordinating conjunction: e.g., after, (al)though, as, because, before, if, once, since, until, unless, whenever, whereas, whereby, whereupon, while, whilst, so, in that, so that, in order that, such that, except that, now (that), providing (that), provided (that), supposing (that), considering (that), granting (that), granted (that), given (that), assuming (that), seeing (that), as long as, as far as, as soon as, so long as, insofar	(Source: '09/06/2016-04:43:08PM-WSWA-EN-Speech'[16]) 'This generates greater public and media attention than if the events were held at separate times.'

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[14] The dictionary, issued by the US National Aeronautics and Space Administration (NASA), was available at https://er.jsc.nasa.gov/seh/menu.html.

[15] The table is a modified version of that in a document issued by the University of Sydney, available on its website https://www.sydney.edu.au/content/dam/students/documents/learning-resources/learning-centre/writing/interdependencies-between-clauses.pdf.

[16] The World Space Week Association (WSWA)

as, inasmuch as, so as, so as (to), sooner than, rather than, as if, as though, in case (that)	
wh-word: i.e., where, what, why, how, whom, when, whether, which, whose	(Source: '09/06/2016-11:24:51AM-Canada-EN-Speech') 'The contribution of space to the 17 Development goals is a new angle which directly address the business of those UN entities.'
that	(Source: '09/06/2016-12:03:20AM-ASE-EN-Speech'[17]) 'We are confident that the work of the committee with benefit from your experience and competent leadership.'
a non-finite verb form: e.g., a participle or infinitive verb form	(Source: '10/06/2016-11:43:19AM-Germany-EN-Speech') 'Member states of the expert group are invited to collaborate closely with national authorities on possible national security risks with respect to space weather.'

The list, though not exhaustive, covered most of the indicators identified in the composite sentences of the source speeches. However, exceptional cases were also observed: for instance, one sentence ended with a colon followed by another sentence, which I regarded as two separate sentences; a sentence had a compound predicate comprising multiple verbs or verb phrases sharing the same subject, which were considered multiple sentences (see Table 5.2).

Table 5.2. Unusual indicators and examples of composite sentences

Colon between sentences	(Source: '10/06/2016-11:43:19AM-Germany-EN-Speech') Source Text (ST): 'Before concluding we would like to express our gratitude … for the selected thematic priorities by both committees: they are very much in line with our … subcommittees.'
Compound predicate sharing a subject	(Source: '09/06/2016-10:21:36AM-Thailand-EN-Speech') ST: '…which will have ultimate aims to alleviate social disparity, enhance sustainable development, and elevate economy of Thailand and the region …'

After counting the number of the clauses (including the main clauses) in the composite sentences and that of the simple sentences in each source speech, I calculated the proportion of the clauses by dividing their number by the total number of clauses and simple sentences and multiplied by 100 to yield percentage values.

5.3.1.4. Speed

The speech rate and articulation rate were assessed mainly for detecting whether any source speech was spoken at an unusually fast pace that might affect interpreting quality (see Subsection 2.2.4.3). The speech rate was measured by dividing the number of words in a speech by its duration in seconds[18] and multiplied by 60 to obtain the value of words per minute (wpm). The articulation rate was measured as follows: First, the recordings were opened in Praat (a

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[17] The Association of Space Explorers (ASE)

[18] The duration of the speech was automatically displayed in the audio files opened in Adobe Audition.

speech-analysis software), in which silences were annotated by setting the minimum value to 0.3 seconds. This threshold is a standard adopted in linguistic studies (see Dechert and Raupach 2011) and was chosen considering the pause thresholds used or recommended by previous researchers for excluding interruptions caused by articulatory constraints, for example, 0.25 seconds (Goldman-Eisler 1958), 0.27 seconds (Kowal and O'Connell 2011), 0.28 seconds (Towell et al. 1996), 0.3 seconds (Tannenbaum et al. 1967) and 0.25-0.3 seconds (De Jong and Bosker 2013). Following that was the identification of pauses, which could be done visually based on the oscillogram generated in Praat (see Figure 5.3 for an example).

Figure 5.3. Oscillogram generated in Praat

Praat offers another feature called 'TextGrid' that transforms the alternating sounds and silences in the flow of speech into a different visualisation which is more straightforward than an oscillogram, allowing me to analyse data at a glance (see Figure 5.4 for an example).
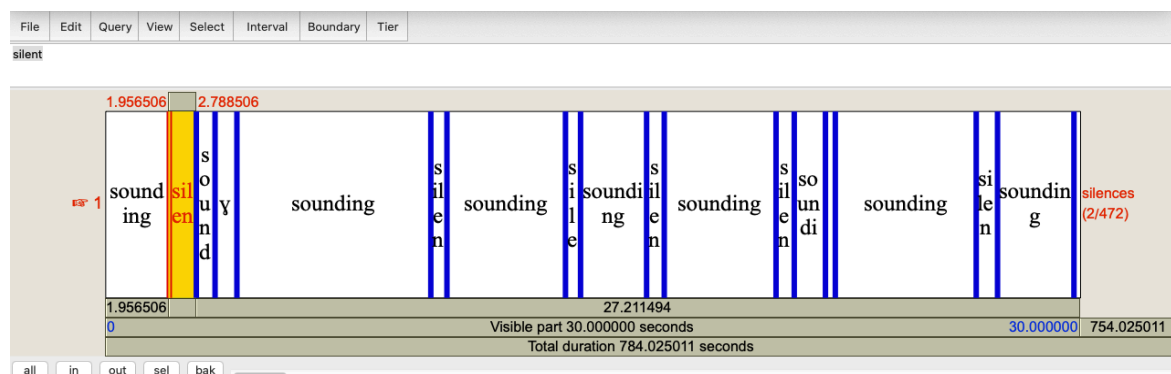
Figure 5.4. TextGrid generated in Praat

While viewing the TextGrid, I listened to the recordings and noted down any sounds that were not those of the delegates' voice but background noise. These occurred roughly once or twice per speech and were eliminated from the analysis. I also identified the onset and offset times of pauses indicated in seconds with six decimal places (see the numbers in the top-left corner), rounded them off to one decimal place, added slash marks to the printed scripts between the words where they occurred, and wrote the rounded times next to the marks (see Figure 5.5 for an example). The pause duration was calculated by subtraction and added in circles.

Figure 5.5. Documenting identified silences in a printed script

Finally, the articulation rate was measured by dividing the number of words by the total speaking time (excluding silences) in seconds for each speech and multiplied by 60 to obtain the value of wpm.

5.3.1.5. Pauses

The silent pauses (or unfilled pauses) identified in the source speeches were explored further. Their proportion and duration were calculated by dividing their duration in each speech by the speech duration in seconds and multiplied by 100 and 60 to yield the percentage and the value per minute, respectively. Their frequency was calculated by dividing the number of silent pauses in each speech by the speech duration in seconds and multiplied by 60 to obtain the value per minute.

5.3.1.6. Intonation

Praat and a pre-written script for voice pitch measurement[19] were used to collect data on pitch variation as an indicator of intonation (i.e., the greater the variation, the livelier the intonation). The analysis was done by 1) opening and selecting the recordings of the source speeches in Praat; 2) editing the script by setting the pitch range to 30-600 Hz[20]; and 3) running the script in Praat to generate statistics especially on the standard deviation of pitch values or fundamental frequency (see Figure 5.6 for an example), which reflected the pitch variation (i.e., the higher the standard deviation, the greater the variation).

```
F0 statistics from 09/06/2016-05:17:00PM-Pakistan-EN-Speech

      Hertz
Min   67.41105337271193
Max   276.9309808840925
Median     180.71857714123465
25% quantile    166.93706895098975
75% quantile    196.55983538715668
Mean 182.219233390541
Stdev 23.51423854769335

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Selected options
Minimum pitch: 30 Hz
Maximum pitch: 600 Hz
Time step: 0.01 s
Number of bins in the histogram: 30
```

Figure 5.6. Statistics generated in Praat on the pitch values of a recording

5.3.2. Interpretations

5.3.2.1. Content-related features

In order to analyse whether the rendered information in the relevant transcripts corresponded to that in the source speeches, a clause-based assessment model was developed and used for detecting inaccurate and incomplete renditions and evaluating their severity. For the analysis,

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[19] This is an open-source Praat script written by Mietta Lennes for measuring the fundamental frequencies of audio files, retrieved in January 2021 from the website <https://github.com/FieldDB/Praat-Scripts/blob/master/draw_pitch_histogram_from_sound.praat>. The data generated from it was randomly tested by comparison with that available from Praat's Pitch menu (which each time reads only a maximum 60 seconds of an audio file). The two were consistent, so the script was used for facilitating the analysis.

[20] It was chosen in view of two factors: 1) the default pitch range in Praat was 75-500 Hz; 2) the typical fundamental frequencies of the human voice lie roughly in the range of 30-300 Hz (Chen 2019).

the source speeches were segmented into individual clauses and simple sentences identified previously (see the double slashes in Figure 5.7 and Subsection 5.3.1.3).

At the same time, our work here at UNCOPUOS should be intensified, particularly on those non-weapons issues //that may impact on the long-term sustainability of outer space activities, particularly including space debris mitigation guidelines //which remains an issue of concern to all of us. //South Africa also stands fully behind the development of draft guidelines on the long-term sustainability of outer space activities //currently being undertaken by the working group under Dr Peter Martinez. //South Africa sees it as imperative // that these Guidelines be further debated, developed and finalized // to promote the safety, sustainability and security of activities in outer space, in the interests of all nations. //

Figure 5.7. Segmenting a speech script

The assessment model drew on previous literature on quality assessment in interpreting including especially Barik's (1994) description of various departures of interpretations, Moser-Mercer's (1996) suggestion for evaluation with a clear definition and an appropriate scale, Romero-Fresco and Pöchhacker's (2017) NTR model for assessing accuracy and completeness (content), and Wadensjö's (1998) classification of renditions.
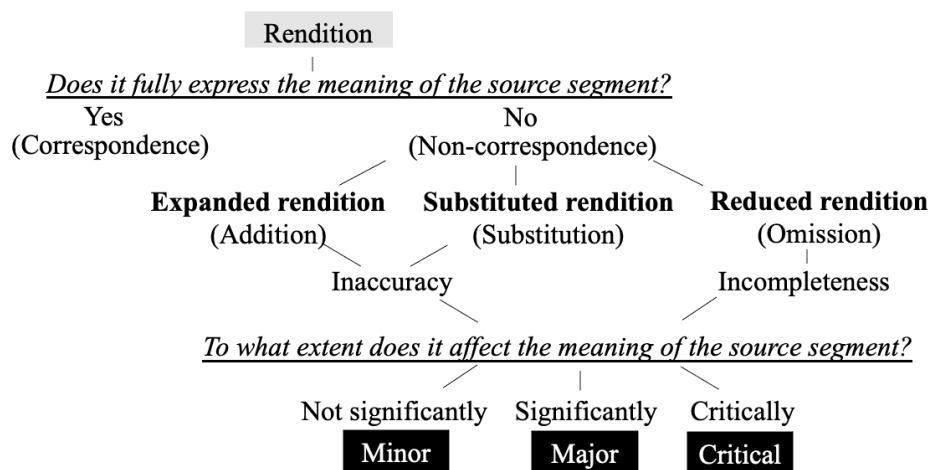
Figure 5.8. Model for assessing accuracy and completeness

According to the model, presented in Figure 5.8, the analysis consisted of three phases. The first was to compare a source speech segment to its interpretation and identify any non-correspondence. The second phase was classifying the non-correspondence into three types – expanded rendition, reduced rendition, and substituted rendition – based on the following description (adapted from Barik 1994 and Wadensjö 1998):

- Expanded rendition: information not expressed in the speech but added in the interpretation. It occurs when interpreters use a word or phrase (e.g., an attribute or a connective) not stated in the original (i.e., in this case the source speech and script); when interpreters elaborate by adding extra information that is not from the original; when interpreters add information stated in the script but not in the source speech; or when interpreters add non-substantial information, not stated in the original, to an utterance intended for giving closure.

- Substituted rendition: information expressed in the interpretation that is different from the original. It happens when interpreters replace a lexical item of the original with an inaccurate one; or when interpreters make a change in phrasing, changing the meaning in the original.

- Reduced rendition: information expressed in the original but not in the interpretation. It occurs when interpreters leave out a word or short phrase; when interpreters ignore the information not stated in the script yet added to the speech; when interpreters combine different parts into a compound unit that fails to fully re-express the original information; or when interpreters seem to fail to comprehend the original information, seem unable to render it, or fall behind (or catch up with) the speaker without interpreting it.

The third phase of the analysis involved grading the non-corresponding renditions depending on the extent of their non-correspondence with the source speech segment: minor (i.e., not affecting the intended clause-level meaning), major (i.e., changing the intended clause-level meaning) and critical (i.e., substantially or completely distorting the overall intended clause-level meaning).

Table 5.3. Examples of the identified expanded renditions

Minor	(Source: '09/06/2016-04:24:00PM-Brazil-EN-Interpretation-A') ST: '…, we would like to welcome the application by New Zealand ...' Source Speech (SS): '…, we would like to warmly welcome the application by New Zealand …' Target Speech (TS): '…, 我们热烈欢迎并且也支持新西兰…' Translation (Tn): …, we warmly welcome and support the application by New Zealand …
Major	(Source: '09/06/2016-11:02:36AM-Sweden-EN-Interpretation-A') ST (unavailable) SS: '…, we have reached a few key conclusions: first, the need for a holistic approach on space space issues across all sectors including between civilian, commercial and military needs.'

	TS: '…，我们达成了几个结论：第一，需要全面地来讨论所有部门的空间问题，包括在民用、商用以及军用的需求之间达成的平衡 …'
	Tn: …, we have reached a few key conclusions: first, the need for a holistic approach on space issues across all sectors including the balance achieved between civilian, commercial and military needs.
Critical	(None identified)

As can be seen from the examples in Table 5.3, '并且也支持' (and support) was considered a minor expanded rendition because it was not stated in the original; yet, it barely altered the meaning of the source speech segment. On the other hand, '达成的平衡' (the balance achieved) was counted as a major expanded rendition as it was added to the interpretation and went beyond the meaning of the source speech segment.

Table 5.4. Examples of the identified substituted renditions

Minor	(Source: '09/06/2016-11:02:36AM-Sweden-EN-Interpretation-A') ST (unavailable) SS: 'We remain at the forefront of the developments for the capable space industry, cutting-edge research and the Space Centre Esrange in the north part of Sweden.' TS: '我们仍然是处于为外空行业、最新研究以及空间中心 Estrage 的发展的前沿，在瑞典的北部。' Tn: We remain at the forefront of the developments for the space industry, cutting-edge research and the Space Centre Esrange, in the north parts of Sweden.
Major	(Source: '10/06/2016-04:57:48PM-Austria-EN-Interpretation-A') ST: '…that the technical work of these groups is complemented by legal considerations as well as political decision-making mechanisms.' SS: '…that the technical work of these groups is complemented by legal considerations as well as political decision-making mechanisms.' TS: '…这些技术组的工作呢得到了法律可以得到法律审方面的考虑以及政治方面决策机制的补充。' Tn: …that the work of these technical groups is complemented by legal can be complemented by legal consider considerations as well as decision-making mechanisms in the political aspect.
Critical	(Source: '10/06/2016-04:57:48PM-Austria-EN-Interpretation-A') ST: 'Austria therefore attaches particular importance to the outcome of the Working Group on the Long-term Sustainability of Outer Space Activities.' SS: 'Austria therefore attaches particular importance to the outcome of the Working Group on the Long-term Sustainability of Outer Space Activities' TS: '因此澳大利亚高度重视工作组即外层空间活动长期可持续性工作组的工作成果。' Tn: Therefore Australia attaches particular importance to the outcome of the working group namely the Working Group on the Long-term Sustainability of Outer Space Activities.

Table 5.4 shows that 'Estrage' was considered a minor substituted rendition because it did not correspond to the original 'Esrange' which yet was not key information. Either word was of little significance to listeners, and that rendition barely distorted the meaning of the source speech segment. '这些技术组的工作' (the work of these technical groups) was counted as a major substituted rendition in that it differed from the original 'the technical work of these groups' and altered the meaning of the source speech segment. '澳大利亚' (Australia) was regarded as a critical substituted rendition because it was entirely different from the name of

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the country on behalf of which the delegate was speaking and changed the entire meaning of the source speech segment.

Table 5.5. Examples of the identified reduced renditions

Minor	(Source: '10/06/2016-04:57:48PM-Austria-EN-Interpretation-A')
	ST: 'A positive outcome would strengthen the role of COPUOS as the prime multilateral forum …'
	SS: 'A positive outcome would strengthen the role of COPUOS as the prime multilateral forum …'
	TS: '一个积极的成果呢将会加强本委作为一个主要的论坛…'
	Tn: A positive outcome would strengthen the role of Committee (COPUOS) as a prime forum …
Major	(Source: '09/06/2016-03:29:04PM-Italy-EN-Interpretation-A')
	ST: 'Italy, through the Italian Space Agency, wishes to offer the use of all public data and the long standing available expertise within ASI's Space Science Data Center located at the ASI HQs in Rome.'
	SS: 'Italy, through the Italian Space Agency, wishes to offer the use of all public data and the long standing available expertise within ASI's Space Science Data Center located at the ASI headquarter in Rome'
	TS: '意大利通过意大利空间局想要为我们提供所所有的公开数据。'
	Tn: Italy, through the Italian Space Agency, wishes to offer us all all public data.
Critical	(Source: '09/06/2016-05:36:13PM-Canada-EN-Interpretation-A')
	ST: '… is no easy task. My partners on the Space Security Index project …'
	SS: '… is not easy. And I am aware that we are literally dealing with rocket science and astrophysics. My partners on the Space Security Index project …'
	TS: '…不是一件简单的任务。我们在空间安全指数项目上的合作伙伴…'
	Tn: … is not an easy task. Our partners on the Space Security Index project …

As listed in Table 5.5, 'multilateral' was omitted in the interpretation; despite this, the interpretation conveyed the meaning of the source speech segment and thus the omission was counted as a minor reduced rendition. In the second example, 'and the … in Rome' was missed and only a part of the source speech segment was interpreted, which was considered a major reduced rendition. In the third case, the entire source speech segment 'And I … astrophysics.' was left out in the interpretation and, therefore, counted as a critical reduced rendition.

The frequency of the identified expanded, substituted, and reduced renditions of different severity was calculated by dividing the number of each by the total number of segments of each interpretation and multiplied by 100 to yield percentage values.

5.3.2.2. Form-related features

The analysis of form-related features focused on whether the language used was appropriately constructed and articulated. Drawing on Lee's (2014) assessment of target language quality, a model was developed to account for various features, such as syntax, phonology, and

grammaticality, and used for identifying renditions that were not linguistically correct/natural and did not conform to the conventions of Chinese.

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            ┌─────────────────┐
            │    Rendition    │
            └─────────────────┘
                     │
    Is the target language use appropriate?
  Yes                                    No
                   ╱      │      ╲
Inaccurate pronunciation   Inadequate lexical choice   Unusual syntax
```
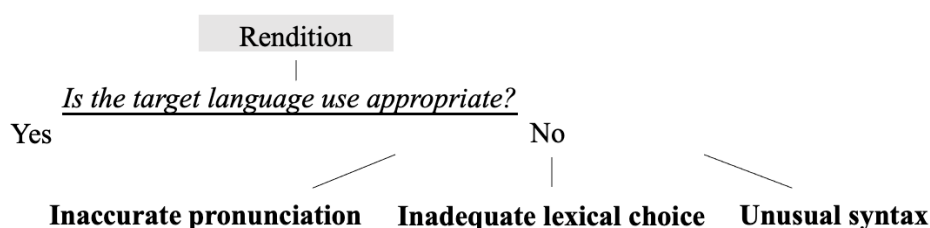
Figure 5.9. Model for assessing form-related aspects

According to the model, presented in Figure 5.9, the analysis consisted of two phases: 1) Identifying inappropriately formed renditions by reading from the corresponding transcripts and listening to the relevant recordings (which was for checking the interpreters' enunciation). 2) Classifying them into three types:

- Inaccurate pronunciation: a word in the interpretation being not correctly pronounced.[21]

- Inadequate lexical choice: a lexical item (including terminology) in the interpretation that is inappropriate in the speech context.

- Unusual syntax: a sentence in the interpretation constructed in a way different to the norm.[22]

Table 5.6. Example of the identified inappropriately formed renditions

Inaccurate pronunciation
(Source: '09/06/2016-05:36:13PM-Canada-EN-Interpretation-A')
ST: 'rate of growth'
SS: 'rate of growth'
TS: 'zhēn zhǎng lǜ' (增长率)
Tn: rate of growth
Inadequate lexical choice
(Source: '09/06/2016-03:29:04PM-Italy-EN-Interpretation-A')
ST: '… the Director of the UN Office for Outer Space Affairs, Ms. Simonetta Di Pippo …'
SS: '… the Director of the UN Office for Outer Space Affairs, Ms. Simonetta Di Pippo …'
TS: '… 外空司的司长西蒙娜·迪皮蓬小姐 …'

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[21] '新华字典' (Xinhua Dictionary), a Chinese dictionary, was used as a reference source (see Wilson 1937). Attention was also given to '多音字' (polyphones, words having multiple pronunciation, usually with a different meaning) for ensuring that the correct pronunciation was used to convey the intended meaning.

[22] '现代汉语' (Modern Chinese), a Chinese grammar book (Huang and Liao 2017), was used as a reference source. Attention was also given to the (clause-level) sentences that were grammatically incorrect and/or improperly constructed.

Tn: … the Director of the (UN) Office for Outer Space Affairs, Miss Simonetta Di Pippo …
Unusual syntax
(Source: '09/06/2016-05:36:13PM-Canada-EN-Interpretation-A')
ST: '… your inputs are most welcome.'
SS: '… your inputs are most welcome at this time.'
TS: '…你们的各位投入意见呢将会非常受欢迎。'
Tn: … your contributed opinions will be most welcome.

As can be seen from the examples in Table 5.6, the word '增' (growth) should be pronounced as 'zēng' rather than 'zhēn'. The phrase '小姐' (Miss) was not appropriate for addressing the UNOOSA Director because, besides referring to unmarried or young women, it is commonly used in China to address females in certain occupations like waitresses and sex workers. The word order of the sentence '你们…受欢迎。' did not conform to Chinese grammar because the information is usually expressed in the language by an active construction and the word '的' (de, an auxiliary) should be put between '投入' (to contribute) and '意见' (opinions) to attribute the former to the latter.[23]

The frequency of inaccurate pronunciation and inadequate lexical choices was calculated by dividing the number of occurrences of each by the total number of words in an interpretation and multiplied by 100 to obtain the percentage value. The frequency of unusual syntax was calculated by dividing the number of its occurrences by the total number of the segments of each interpretation and multiplied by 100 to obtain percentage values.

5.3.2.3. Delivery-related features

To analyse delivery-related features, the speech rate and articulation rate of the interpretations were measured in the same way as those of the source speeches (see Subsection 5.3.1.4). Inspired by Han's (2015) and Tissi's (2000) work on fluency in SI, I also focused on the following features:

- Unfilled pauses

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[23] '的' equals 'of' or 's' when marking possession; the constituent nouns/pronouns preceding it become the modifier, and the constituent nouns/pronouns attached after it become the modified. When '的' functions as an attribute, it connects adjectives or other words with a noun/pronoun.

a) Grammatical pauses: silent pauses separating grammatical units (e.g., sentences, clauses, and phrases (see Halliday 1994)) from each other with mainly syntactic, semantic, or phonetic motivation (Zvonik 2004).

b) Non-grammatical pauses: silent pauses not correlated with dividing a text into grammatical units (e.g., used for hesitations) (Zvonik 2004).

- Filled pauses

a) Syllable lengthening: the sound of a vowel or a consonant – or a word in Chinese, a single syllable language (see Tao 2019) – being lengthened (Tissi 2000).

b) Voiced hesitation: vocalised expressions in a speech, such as 'um' and 'uh' (Tissi 2000).

- Repeats: repetitions of a word, phrase, or part of a word (Tissi 2000).

- Repairs: a rephrasing or correction made by speakers of what they have just said (a word, phrase, or part of a word) (Van Besien and Meuleman 2004).

Unfilled pauses were classified as either grammatical or non-grammatical. Table 5.7 illustrates the distinction between the two types. The silences of 3.2 and 0.8 seconds were considered grammatical as they happened between the grammatical units of the sentence. The pause of 0.4 seconds was considered a non-grammatical pause because it appeared within the first part of the phrase '联合国' (the United Nations).

Table 5.7. Examples of the identified unfilled pauses

Grammatical pauses	(Source: '09/06/2016-04:11:40PM-Iran-EN-Interpretation-B') ST: 'Distinguished Delegates and Representatives, I have the honour to address …' SS: 'Distinguished Delegates and Representatives, I have the honour to address …' TS: '尊敬的代表们，<3.2s>非常荣幸<0.8s>在…发言。' Tn: Distinguished Delegates and Representatives, <3.2s> (I) am very honoured <0.8s> to address…
Non-grammatical pauses	(Source: '10/06/2016-12:09:07AM-Italy-EN-Interpretation-B') ST: '… United Nations…' SS: '… United Nations…' TS: '… 联<0.4s>合国 …' Tn: … the Unit<0.4s>ed Nations …

The frequency, proportion, and duration per minute of unfilled pauses in each interpretation were calculated in the same manner as in the case of those in the source speeches (see Subsection 5.3.1.5). Also, the frequency of non-grammatical pauses was calculated by dividing their total number by the duration of each interpretation in seconds and multiplied by 60 to yield values in minutes. To measure unusually long grammatical pauses, the frequency of grammatical pauses equal to or greater than 1.3 seconds was calculated by dividing their total

number by the duration of each interpretation in seconds and multiplied by 60 to obtain values in minutes. The threshold (1.3 seconds) was chosen based on Tissi's (2000) findings that unfilled pauses in SI usually last up to 1.25 seconds.

The filled pauses in the interpretations were identified by listening to the relevant recordings and circling the words in the printed transcripts where these appeared. They were classified as either syllable lengthening or voiced hesitation.

Table 5.8. Examples of the identified filled pauses

Syllable lengthening	(Source: '09/06/2016-03:12:07PM-Romania-EN-Interpretation-B')
	ST: '… was the first detection of the gravitational waves, undertaken by …'
	SS: '… was the first detection of the gravitational waves, undertaken by …'
	TS: '… 是第一次探测了这个重力波，这是通过大型的国际合作实现的。'
	Tn: … was the first detection of the gravitational waves, and this was fulfilled by …'
Voiced hesitation	(Source: '10/06/2016-11:05:42AM-APSCO-EN-Interpretation-B')
	ST: '… to provide the platform to exchange ideas …'
	SS: '… to provide the platform to exchange ideas …'
	TS: '… 为了提供一个平台呃来交流信息 …'
	Tn: …to provide the platform to eh exchange information …

As can be seen from the examples in Table 5.8, 'zhè', the sound of the word '这' (this), was lengthened for one second and counted as an occurrence of syllable lengthening. '呃' (è/e), similar to 'eh' in English, sounded like the interpreter was hesitating when uttering something not stated in the source speech or script and was considered an occurrence of voiced hesitation.

The frequency of the two types of hesitation phenomena was calculated by dividing the number of each by the duration of each interpretation in seconds and multiplied by 60 to obtain values in minutes.

The repeats and repairs in the interpretations were similarly identified by reading the corresponding transcripts and listening to the relevant recordings.

Table 5.9. Examples of the identified repeats and repairs

Repeats	(Source: '09/06/2016-03:12:07PM-Romania-EN-Interpretation-B')
	ST: 'I am also reminding the involvement of Romanian groups in …'
	SS: 'I also remind the involvement of Romanian groups …'
	TS: '我想告知大家罗马尼亚罗马尼亚也参加了…'
	Tn: I would like to inform you that Romania Romania also participated in …
Repairs	(Source: '10/06/2016-05:46:07PM-UNCOPUOS-EN-Interpretation-B')
	ST: 'Allow me to briefly outline …'

SS: 'Allow me to briefly outline …'	
TS: '像请允许我简单地介绍…'	
Tn: Like Please allow me to briefly introduce …	

For instance, as illustrated in Table 5.9, the name '罗马尼亚' (Romania) was repeated, and the word '请' (please) was used to correct what had just been said (false start).

The frequency of repeats and repairs was calculated by dividing the number of each by the duration of each interpretation in seconds and multiplied by 60 to obtain values in minutes.

Another focus of the analysis was utterance-final particles, or '（句末）语气词' in Chinese. They refer to words placed at the end of an utterance in Chinese as an interactional discourse marker that is devoid of meaning but expresses various kinds of modality (or '语气' in Chinese) (Lu 2005; Shei 2014; Song 1998; Sybesma et al. 2017). Those which are commonly used in Mandarin include 'le 了', 'ma 吗', 'a 啊', 'ya 呀', 'ba 吧', 'ne 呢', 'be 呗', 'ma 嘛' and 'me 嚒' (Sybesma et al. 2017). The utterance-final particles spoken in the interpretations were identified by reading the corresponding transcripts and listening to the relevant recordings. Their frequency was calculated by dividing their number by the duration of each interpretation in seconds and multiplying by 60 to obtain values in minutes.

The intonation of the interpretations was analysed by measuring voice pitch variation. This was done in the same manner as described for the source speeches (see Subsection 5.3.1.6).

5.4. Findings

This section starts with the data on the source speeches and scripts, followed by that on two speeches of which the interpretations with and without text were compared in detail. It then reports the findings showing the consistency of Interpreter A's performance and ends by presenting the ones that answered the research questions posed for this study: Is there a difference in simultaneous interpreters' output quality when they interpret a read-aloud speech with the text available in the booth (SI with text) compared to working without the text (SI without text)? If so, what is the impact of SI with text on interpreting quality?

5.4.1. Source speeches

5.4.1.1. Overall characteristics

The corpus contained a total of 41 read English speeches. Nineteen of them were rendered by Interpreters C and D, who both hold an MA in conference interpreting and had been working in the UN for about 1 and 20 years, respectively.[24] Interpreters C and D interpreted all of these 19 speeches with text. These speeches were therefore not included in the analysis because the ultimate goal was to find comparable speeches interpreted with and without text. The remaining 22 read English speeches were rendered by Interpreters A and B, both with an MA in conference interpreting and about five years of working experience in the UN. Interpreters A and B did both SI with and without text. Therefore, the analysis only focused on the 22 speeches interpreted by Interpreters A and B.

Of the 22 speeches, 6 were rendered by Interpreter A alone, 8 by Interpreter B alone, 3 by both taking turns, and 5 by one of them alternating with Interpreter C or D. Moreover, 5 of the 22 speeches were short, lasting only 2 to 3 minutes (one of which was by an Indonesian delegate, rendered partly by Interpreter A and partly by Interpreter B; and the others were rendered by either of them alone). The remaining 17 speeches (77%) were 5-13 minutes and 600-1500 words long, with an average length of 7 minutes or 850 words.

Based on the methodology described in Subsection 5.3.1, the 22 speeches were analysed for their lexical and syntactic characteristics as well as delivery features. As shown in Figure 5.10 in chronological order from left to right, the 22 speeches contained 4-15% of space-related terms (average 10%). The one with the lowest density of terms was by the Indonesian delegate. The speech with the highest density of terms was by the delegate of IAASS (International Association for the Advancement of Space Safety), followed by that of the delegates of Slovakia and APSCO (Asia-Pacific Space Cooperation Organisation).

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[24] The information was obtained in private conversation with the interpreters during the observation period.
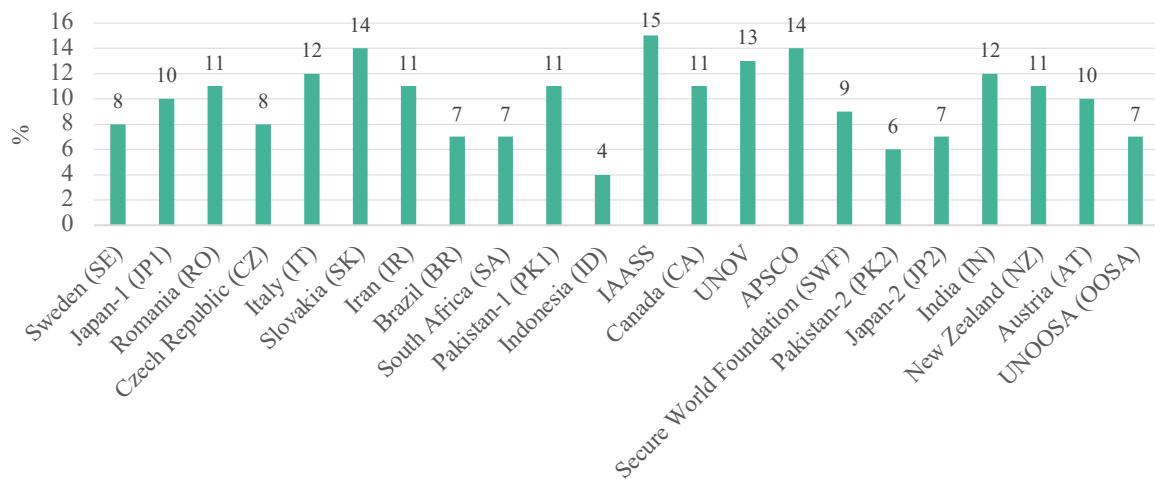
Figure 5.10. Read English speeches rendered by Interpreters A and B – Proportion of terms

Figure 5.11 illustrates that the 22 speeches contained a proportion of non-simple sentences ranging from 61% to 97%, with an average of 85%. Except for those by the delegates of South Africa and of Indonesia and India, which had the highest and lowest values, respectively, the speeches generally contained about 80-90% of composite sentences.
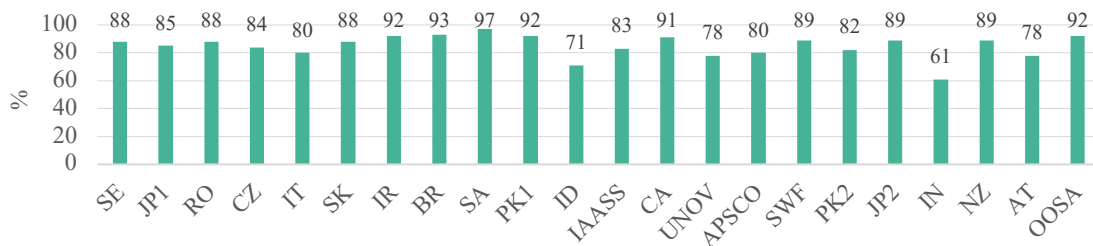
Figure 5.11. Read English speeches rendered by Interpreters A and B – Proportion of non-simple sentences

The 22 speeches had a speech rate ranging from 88 to 156 wpm, with a mean of 121 wpm. The slowest and fastest speeches were by the delegates of Japan (JP1) and Canada, respectively. One-third of the speeches were spoken at a rate above the average, and a quarter (27%) were spoken at a rate of over 130 wpm (see Figure 5.12).
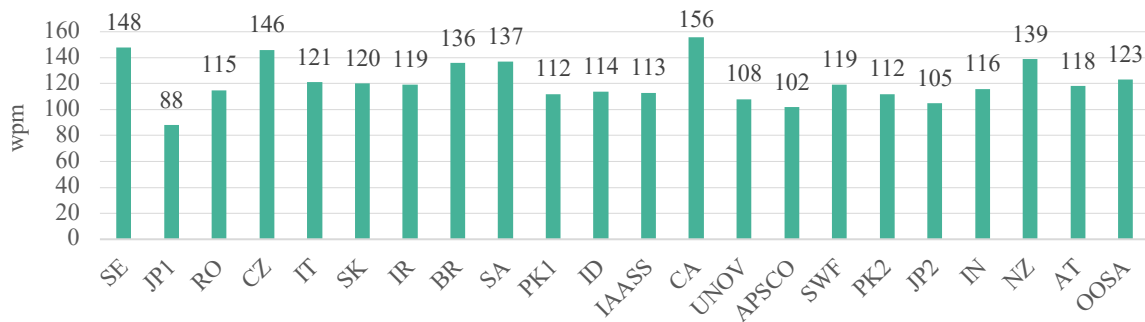
Figure 5.12. Read English speeches rendered by Interpreters A and B – Speech rate

As presented in Figure 5.13, the 22 speeches were articulated at a rate ranging from 120 to 194 wpm, with a mean of 158 wpm. The slowest and fastest speeches were also by the Japanese and Canadian delegates. A third of the speeches were articulated at a rate above the average, and almost a third (27%) were articulated at a rate of over 170 wpm.
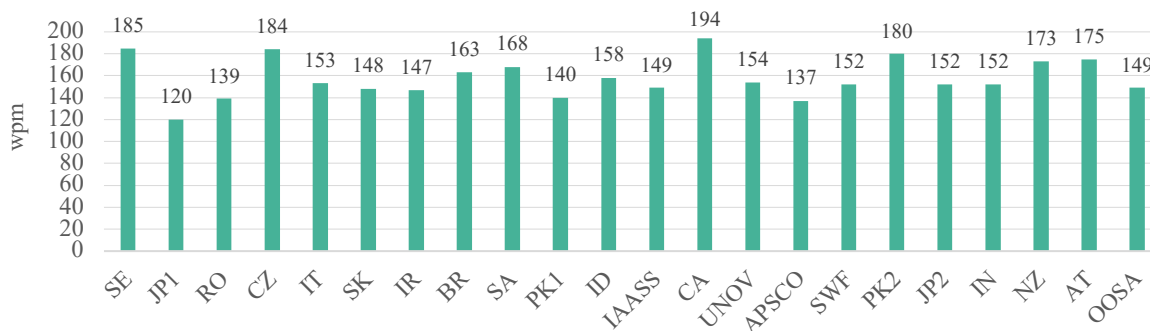
Figure 5.13. Read English speeches rendered by Interpreters A and B – Articulation rate

Figure 5.14 shows that silent pauses accounted for 17-33% of the duration of the 22 speeches, with a mean of 23%. The speeches having the largest and smallest proportion of them were by the delegates of Austria and Brazil, respectively. In the majority of the speeches (55%), the proportion of silent pauses was below the average.

Figure 5.14. Read English speeches rendered by Interpreters A and B – Proportion of silent pauses

In the 22 speeches, silent pauses lasted 10 to 20 seconds per minute, with a mean of 14 seconds per minute. As in the case of pause proportion, the speeches with the longest and shortest duration of pauses were by the Austrian and Brazilian delegates, and in the majority of the speeches (55%) the duration of silent pauses was below average (see Figure 5.15).

Figure 5.15. Read English speeches rendered by Interpreters A and B – Duration of silent pauses

Figure 5.16 shows that silent pauses occurred in the 22 speeches 10 to 32 times per minute, with a mean of 21 times per minute. The speeches having the highest and lowest frequency of them were by a Romanian delegate and a Japanese delegate (JP2). In the majority of the speeches (59%), the frequency of silent pauses was equal to or below the average.

Figure 5.16. Read English speeches rendered by Interpreters A and B – Frequency of silent pauses

As demonstrated in Figure 5.17, the standard deviation of pitch of the 22 speeches ranged between 17 and 59 Hz, with a mean of 33 Hz. The speeches with the lowest and highest values were by the delegates of Iran and Canada (male and female, respectively). On average, the standard deviation of pitch of the speeches by female delegates was higher than that of those by male delegates (44 and 27 Hz, respectively).
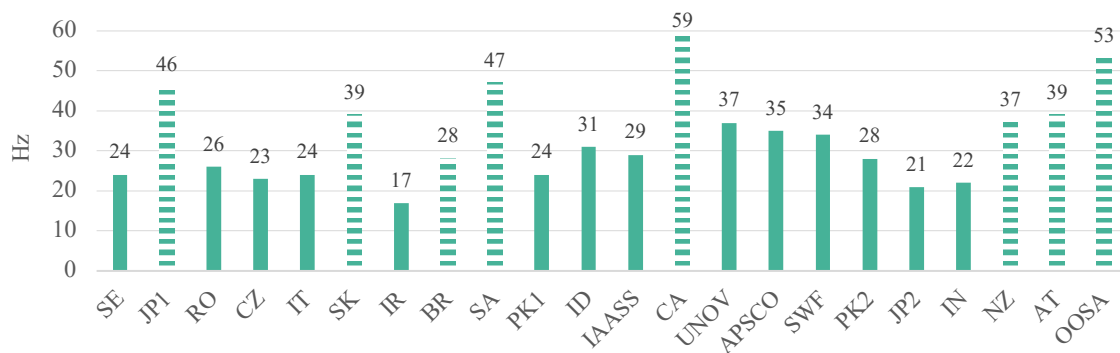
Figure 5.17. Read English speeches rendered by Interpreter A and B – Standard deviation of pitch

5.4.1.2. Comparable speeches

Only two of the 22 speeches were interpreted without text, one by a Swedish delegate and one by the Indonesian delegate. The former was longer – about 7 minutes, 1000 words – and rendered by Interpreter A alone. The latter was shorter – about 3 minutes, 350 words – and, as explained previously, rendered partly (two thirds) by Interpreter A and partly (a third) by Interpreter B. Also, the length of the Swedish delegate's speech was close to the average of the 22 speeches, whereas that of the Indonesian delegate's speech was far below the average (not to mention the length of the part rendered by either interpreter) and eliminated from further analysis. Consequently, the speech by the Swedish delegate was chosen for the comparative analysis, and the focus was shifted to the interpretations delivered by Interpreter A.

Of the 20 speeches interpreted with text, 9 were rendered by Interpreter A: five were interpreted by him entirely and four partly. As shown in Figure 5.18, the 9 speeches were on average around 6 minutes and 800 words long (excluding the part rendered by the other interpreters). The speech by the IAASS's delegate, consisting of 220 words, lasted only 2 minutes, and was followed by an 8-minute film broadcast not requiring interpretation. That by the Iranian delegate lasted 12 minutes, but only the end (1 minute long) was rendered by Interpreter A. The Canadian delegate' speech lasted 12 minutes and Interpreter A rendered half of it (6 minutes and 950 words). In terms of length, this was closest to the Swedish delegate's speech.
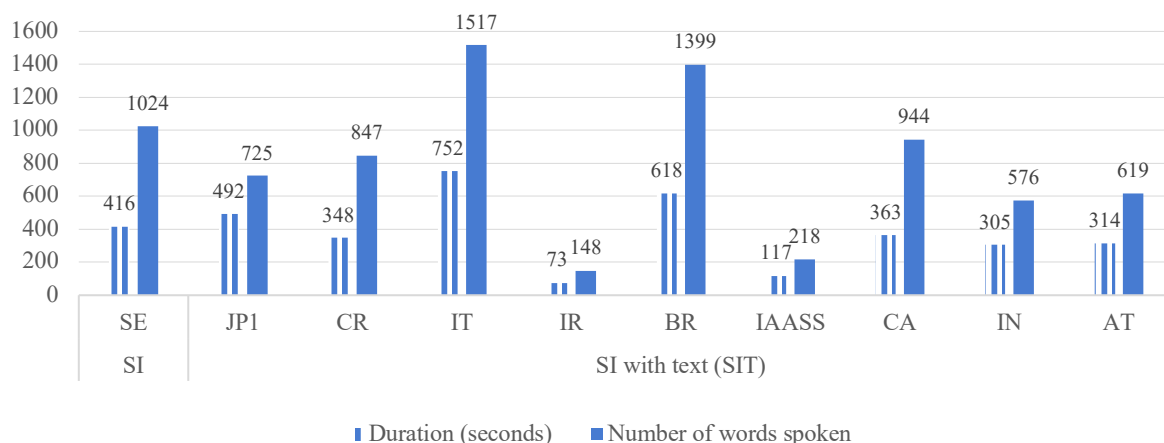
Figure 5.18.   Read English speeches rendered by Interpreter A – Length

As can be seen in Figure 5.19, the 9 speeches had on average 10% of space-related terms, and the speeches by the Japanese delegate (JP1, the slowest one) and the Iranian delegate contained the smallest and greatest proportion, respectively. The speeches by the Czech and Austrian delegates had the same proportion of space-related terms (8%) as that by the Swedish delegate. Those by the delegates of Brazil, India and Canada had 10-11% of space-related terms, only 2-3% higher than the proportion of that by the Swedish delegate.

Additionally, the 9 speeches contained a proportion of non-simple sentences ranging from 61% to 93%, with a mean of 83%. Compared to the others, the speeches by the Brazilian and Indian delegates had the highest and lowest values, respectively. Those by the Czech and Austrian delegates had a proportion that was 4% and 10% lower than that of the Swedish delegate's speech. Those by the Japanese and Canadian delegates were the most similar in this to that by the Swedish delegate (with a difference of 3%).
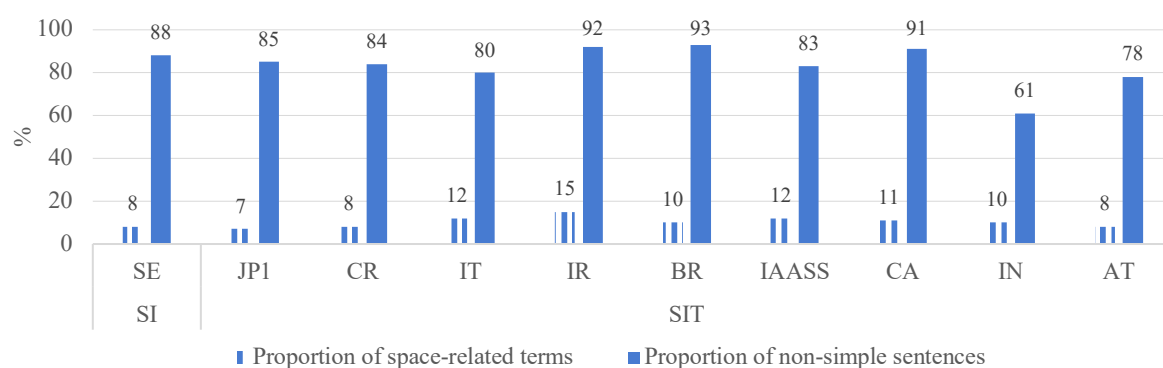
Figure 5.19. Read English speeches rendered by Interpreter A – Terminology, syntactic complexity

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Figure 5.20 shows that the 9 speeches were spoken at a rate between 88 and 156 wpm, with an average of 134 wpm, and articulated at a rate between 120 and 194 wpm, with a mean of 160 wpm. The Canadian delegate's speech was the fastest, but its speed was most comparable among all (except for the one by the Czech delegate) to that of the Swedish delegate's speech.
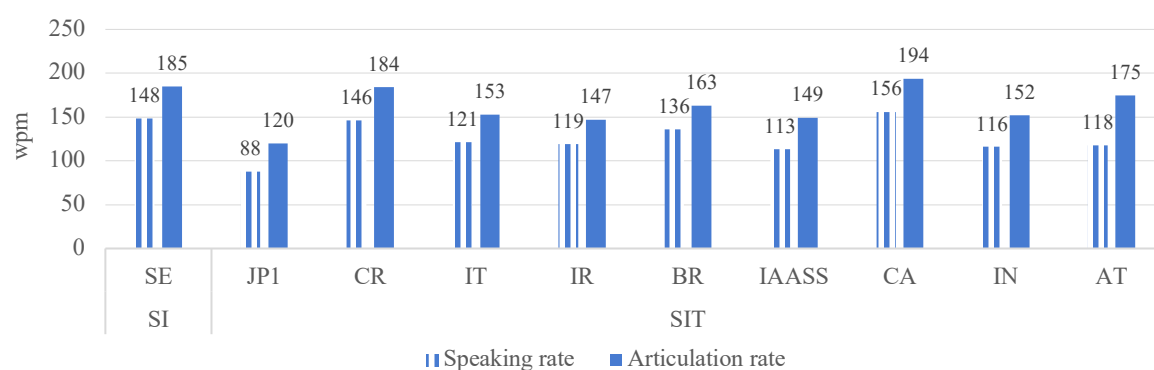
Figure 5.20. Read English speeches rendered by Interpreter A – Speed

In the 9 speeches, silent pauses on average accounted for 23% of the duration of the speech, lasted 14 seconds per minute and occurred 20 times per minute (see Figure 5.21). In the speeches by the Brazilian and Austrian delegates, their proportion was lowest and highest, respectively, and their duration was shortest and longest, respectively. The Czech and Canadian delegates' speeches had not only the same proportion (20%) but the same duration (12 seconds per minute) of silent pauses as the Swedish delegate's speech. Silent pauses occurred with the lowest frequency (11 times per minute) in the speech by the Canadian delegate. Yet this frequency, compared to that in the remaining speeches (except for the one by the delegates of Italy and Brazil), was most similar to that in the Swedish delegate's speech.
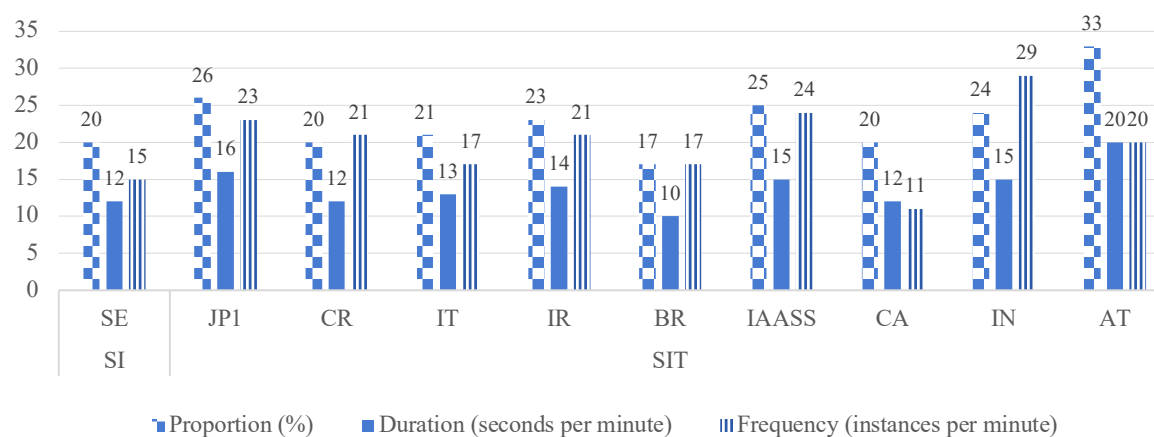
Figure 5.21. Read English speeches rendered by Interpreter A – Unfilled pauses

As shown in Figure 5.22, the standard deviation of pitch in the 9 speeches ranged from 17 to 59 Hz, with a mean of 32 Hz. The female Canadian delegate's pitch variation was greatest and most different from the male Swedish delegate's. The female Czech delegate's and the male Italian delegate's speeches were similar in this to the Swedish delegate's. The female Brazilian delegate's speech was also comparable to the Swedish delegate's, but the standard deviation of pitch in it was the same as the average for the speeches by the male delegates.
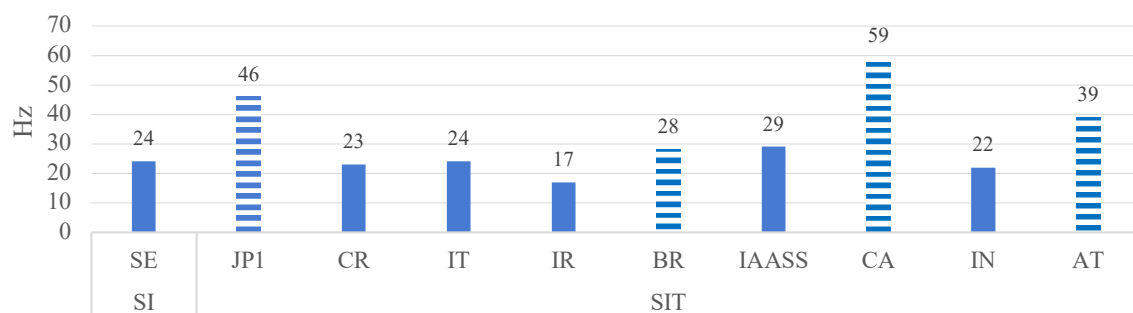
Note: the speeches by female delegates are represented by bars with horizontal stripes.

Figure 5.22. Read English speeches rendered by Interpreter A – Standard deviation of pitch

Overall, compared to the others, the speeches by the Czech and Canadian delegates had the most similarities with that of the Swedish delegate in the various parameters, and the relevant data on the three was also close to the average. Nonetheless, the Czech delegate's speech was eliminated from consideration because of the printing defects found in its script (see Subsection 5.3.1.1). Consequently, the Canadian delegate's speech was selected for being most comparable to the Swedish delegate's (except for pitch variation; see Table 5.10).

Table 5.10. Speeches by the delegates of Sweden and Canada

Speech/Delegate		SE	CA
Number of words spoken		1024	944
Duration (seconds)		416	363
Proportion of terms (%)		8	11
Proportion of non-simple sentences (%)		88	91
Speech rate (wpm)		148	156
Articulation rate (wpm)		185	194
Silent pauses	Proportion (%)	20	20
	Duration (seconds per minute)	12	12
	Frequency (instances per minute)	15	11
Standard deviation of pitch (Hz)		24	59

The Swedish delegate's speech was given in the middle of the morning meeting on 9 June 2016, prior to which Interpreter A had taken a 40-minute break. This speech was themed 'Ways and means of maintaining outer space for peaceful purposes' (Agenda Item 5 of the 59th COPUOS session; see Table 4.1). At the beginning, the delegate thanked the Chair and conference organisers and described the international status quo of space exploration as well as the efforts and achievements made by Sweden for maintaining outer space. In the main body of the speech, the delegate explained how and why Sweden would commit to cross-sector and intergovernmental cooperation as well as international engagement for long-term sustainability of outer space activities; he also acknowledged the actions taken by the international community. At the end, the delegate affirmed the support of Sweden for global policy and legal frameworks for outer space and reiterated the pledge of Sweden of its continuous commitment to the sustainable use of outer space for peaceful purposes.

The Canadian delegate's speech was delivered near the end of the afternoon meeting on 9 June 2016, before which Interpreter A had had approximately 3 hours to read the script and taken an almost 50-minute break.[25] When taking the floor, the delegate did not speak on any agenda item but under the title 'The Space Security Index'. This speech, or more precisely the part that Interpreter A rendered, dealt with space security challenges in outer space.[26] At the beginning, the delegate thanked the Chair and discussed the situation and problems regarding long-term cooperation and sustainability of outer space. In the main body of the speech, the delegate talked about several key projects and research carried out in Canada for space security, during which he explained broadly what the objectives were and what would be needed for achieving these objectives (i.e., promoting a common understanding, providing systematic reports, and convening a working group). Following this, the delegate provided some examples to illustrate the challenges that were threatening space security as a result of insufficient capabilities in space governance.

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[25] The script of the Canadian speaker's speech was provided to the booths about half an hour before the start of the meeting; the speech was delivered about 2.5 hours after the start of the meeting. Interpreter A had taken a 40-minute break, rendered the 2-minute part of the Indonesian delegate's speech and the 2-minute part of the IAASS's speech, and had a break when there was the 8-minute film broadcast (see Subsection 5.4.1.2).

[26] The other (second) part was rendered by Interpreter D, who alternated with Interpreter A (see Subsection 5.4.1.2), with a focus on the international cooperation and security tension in outer space.

5.4.2. Interpreter A's performance

Before the detailed comparison of the interpretations of the two speeches, a preliminary check was performed to ascertain that there was nothing exceptional about them compared to Interpreter A's other interpretations. Moreover, the characteristics of Interpreter A's interpretations were compared to the 13 interpretations by Interpreter B (8 rendered by her entirely and 5 partly) to ascertain that Interpreter A was comparable in terms of relevant performance parameters. The findings were as follows:

Interpreter A spoke at a rate between 193 and 274 wpm and articulated at a rate between 270 and 328 wpm. He interpreted the Swedish delegate's speech at the highest speech rate, which was around 40 and 30 wpm faster than the average and median, respectively. Compared to this, the difference between his articulation rate and the average/median was smaller. Interpreter B spoke at a rate ranging from 182 to 239 wpm and articulated at a rate ranging from 217 to 335 wpm. On average, her speed was about 30 wpm slower than Interpreter A's (see Table 5.11).

Table 5.11. Interpretations by Interpreters A and B – Speed

	Speech rate (wpm)			Articulation rate (wpm)		
SE	274			328		
	Range	**Mean**	**Median**	**Range**	**Mean**	**Median**
A	193-274	232	241	270-328	306	312
B	182-239	208	209	217-335	269	261

Unfilled pauses formed 16-37% of the total duration in Interpreter A's interpretations and 17% in that of the Swedish delegate's speech. In Interpreter B's interpretations, their proportion ranged from 15% to 30%. Additionally, in Interpreter A's interpretations, unfilled pauses lasted 10 to 23 seconds per minute. Their duration in the interpretation of the Swedish delegate's speech was shortest but not far from the average (15 seconds per minute). In Interpreter B's interpretations, they lasted 9 to 18 seconds per minute (average 14 seconds per minute). Moreover, unfilled pauses appeared in Interpreter A's interpretations 15 to 24 times per minute. Their frequency in the interpretation of the Swedish delegate's speech was 17 times per minute, near the average. In Interpreter B's interpretations, they occurred 15 to 24 times per minute, which was the same as the frequency of unfilled pauses in Interpreter A's interpretations (see Table 5.12).

Table 5.12. Interpretations by Interpreters A and B – Unfilled pauses

SE	(%) 17			(seconds per minute) 10			(instances per minute) 17		
	Range	**Mean**	**Median**	**Range**	**Mean**	**Median**	**Range**	**Mean**	**Median**
A	16-37	25	24	10-23	15	15	15-24	20	21
B	15-30	23	22	9-18	14	13	15-24	19	19

Table 5.13 shows that non-grammatical pauses occurred in Interpreter A's interpretations 9 to 17 times per minute. Their frequency in the interpretation of the Swedish delegate's speech was lowest but not far from the mean and median (with a difference of 4 times per minute). In Interpreter B's interpretations, they occurred 7 to 14 times per minute. Long grammatical pauses appeared in Interpreter A's interpretations 0.2-2.4 times per minute, with a mean of about 1 time per minute. Their frequency in the interpretation of the Swedish delegate's speech was 0.8 times fewer per minute than the average. In Interpreter B's interpretations, their frequency ranged from 0.2 to 1.9 times per minute, with the mean and median being near 1.5 times per minute.

Table 5.13. Interpretations by Interpreters A and B – Non-grammatical and long grammatical pauses

	Non-grammatical pauses (instances per minute)			Long grammatical pauses (instances per minute)		
SE	9			0.3		
	Range	**Mean**	**Median**	**Range**	**Mean**	**Median**
A	9-17	13	13	0.2-2.4	1.1	1.0
B	7-14	11	11	0.2-1.9	1.4	1.6

Syllable lengthening occurred in Interpreter A's interpretations 0.7 to 5.1 times per minute. Its frequency in the interpretation of the Swedish delegate's speech was lowest, about 2 times fewer than average. In Interpreter B's interpretations, it appeared 0.6 to 3.4 times per minute. Voiced hesitation occurred in Interpreter A's interpretations 0 to 0.8 times per minute, with the mean and median being close to zero, and was not observed in that of the Swedish delegate's speech. In Interpreter B's interpretations, the frequency of voiced hesitation ranged from 0 to 2.1 times per minute, with a mean of less than one time per minute (see Table 5.14).

Table 5.14. Interpretations by Interpreters A and B – Filled pauses

	Syllable lengthening (instances per minute)			Voiced hesitation (instances per minute)		
SE	0.7			0		
	Range	**Mean**	**Median**	**Range**	**Mean**	**Median**
A	0.7-5.1	3.0	2.9	0-0.8	0.3	0.2
B	0.6-3.4	1.7	1.4	0-2.1	0.8	0.6

As listed in Table 5.15, repeats appeared in Interpreter A's interpretations 0 to 0.8 times per minute (average 0.5 times per minute) and were not found in that of the Swedish delegate's speech. Their frequency in Interpreter B's interpretations ranged from 0 to 0.8 times per minute, with the mean and median being close to zero. Repairs occurred in Interpreter A's interpretations 0.5 to 2.6 times per minute and in that of the Swedish delegate's speech 1.2 times per minute, close to the mean and median. Their frequency in Interpreter B's interpretations ranged from 0.3 to 1.4 times per minute, with a mean of about 1 time per minute.

Table 5.15. Interpretations by Interpreters A and B – Repeats and repairs

	Repeats (instances per minute)			Repairs (instances per minute)		
SE	0			1.2		
	Range	Mean	Median	Range	Mean	Median
A	0-0.8	0.5	0.6	0.5-2.6	1.5	1.5
B	0-0.8	0.2	0.2	0.3-1.4	1.1	1.2

As shown in Table 5.16, utterance-final particles occurred in Interpreter A's interpretations 9 to 17 times per minute. Their frequency in the interpretation of the Swedish delegate's speech was lowest but close to the mean and median (13 times per minute). In Interpreter B's interpretations, they appeared 7 to 14 times per minute (average 11 times per minute).

Table 5.16. Interpretations by Interpreters A and B – Utterance-final particles

	(instances per minute)		
SE	9		
	Range	Mean	Median
A	9-17	13	13
B	7-14	11	11

The standard deviation of Interpreter A's pitch ranged from 21 to 43 Hz. In the interpretation of the Swedish delegate's speech, it was 32 Hz, slightly above the mean and median. That of Interpreter B's pitch was between 40 and 64 Hz, with the average being about 20 Hz higher than that of Interpreter A's pitch (see Table 5.17).

Table 5.17. Interpretations by Interpreters A and B – Standard deviation of pitch

	(Hz)		
SE	32		
	Range	Mean	Median
A	21-43	30	29
B	40-64	49	48

Overall, the analysis presented above shows that Interpreter A's interpretation of the Swedish delegate's speech was comparable to the majority of his interpretations, except for the highest speech rate. It also demonstrates that the interpretations by Interpreter A were largely comparable to those by Interpreter B, with differences found only in speed and pitch variation.

5.4.3. Comparative analysis

This subsection reveals what was found in the comparison between the interpretation of the Swedish delegate's speech (hereafter 'SI') and that of the Canadian delegate's speech (hereafter 'SIT'). The findings will allow for insights into whether, and if so how, the output quality of a simultaneous interpreter working with text differs when compared to working without text in terms of the various features.

5.4.3.1. Content-related features

Applying the clause-based assessment model (see Subsection 5.3.2.1), the findings for differences in content-related features between SI and SIT are presented here with regard to expanded, substituted and reduced renditions. Specifically, SI had 27 expanded renditions, 41 substituted renditions and 35 reduced renditions; SIT had 9 expanded renditions, 26 substituted renditions and 37 reduced renditions (see Figure 5.23). Expanded and substituted renditions both occurred at a higher frequency in SI than in SIT, whereas reduced renditions appeared slightly less often in SI than in SIT. The frequency of expanded renditions in SIT was the lowest, far below that in SI and that of the other two types in either interpretation; differences between the interpretations were greatest as far as expanded renditions were concerned.

Figure 5.23. Comparable interpretations – Frequency of non-corresponding renditions

Neither of the interpretations involved critical expanded renditions. Twenty-one of the 27 expanded renditions in SI were minor and 6 were major, compared to 9 all minor expanded renditions in SIT (see Figure 5.24). The minor and major additions in SI were mainly associated with extra information used for closure or an attribute or connective added to the start or middle of the interpretation. This was also the type of expanded renditions found in SIT, none of which were related to information that was stated in the script but not in the speech. In SI, minor additions occurred with a frequency doubling that in SIT, and major additions occurred, not nearly as often as minor additions.
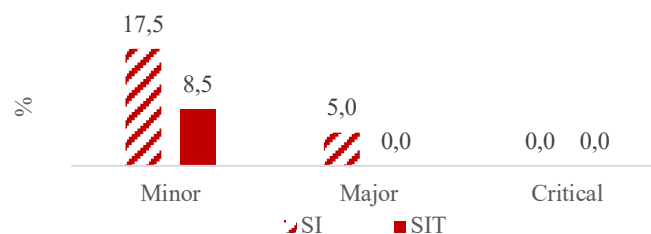
Figure 5.24. Comparable interpretations – Frequency of expanded renditions

Of the 41 substituted renditions in SI, 14 were minor, 24 major and 3 critical; of the 26 substituted renditions in SIT, 9 were minor, 14 major and 3 critical (see Figure 5.25). Nearly all the substitutions in SI were inaccurate lexical items used to replace the original. This was also the type of minor substitutions identified in SIT. The major and critical substitutions in SIT were related to two main factors: one being a change in phrasing which ultimately resulted in changing the original meaning, and the other being the incorrect rendition of the delegate's utterances that were not written in the script. Minor and major substitutions both appeared more often in SI than in SIT. Nevertheless, critical substitutions occurred in both interpretations with a similar frequency, which was lower than that of the other two types.

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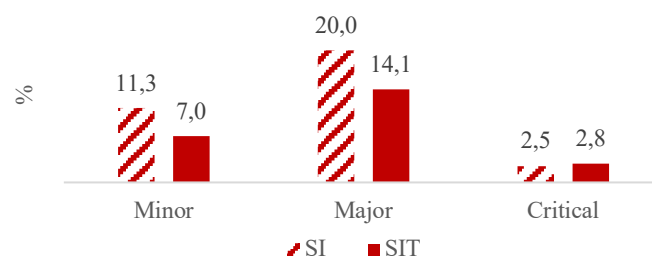
Figure 5.25. Comparable interpretations – Frequency of substituted renditions

The 35 reduced renditions in SI consisted of 24 minor, 8 major and 2 critical omissions. The 37 reduced renditions in SIT included 13 minor, 10 major and 14 critical omissions (see Figure 5.26). In SI, the minor omissions were all related to the missing of a word, short phrase or part of a phrase in the interpretation; the major omissions were related to either that or the missing of a long phrase or several phrases in the interpretation; the critical omissions were caused by the interpreter's failure to render two consecutive segments, of which one was a simple sentence and the other was a part of a compound sentence. In SIT, the minor and major omissions were due to a missing word or phrase in the interpretation. Yet among the critical omissions in SIT, several were associated with the entire absence of the delegate's utterances in the interpretation that were not written in the script, whereas most were related to the successive omission of the delegate's utterances in the interpretation that were also written in the script. In SI, minor omissions occurred at a higher frequency than in SIT, but major and critical omissions both occurred less often than in SIT. Moreover, differences between the interpretations were greatest when it came to critical omissions.
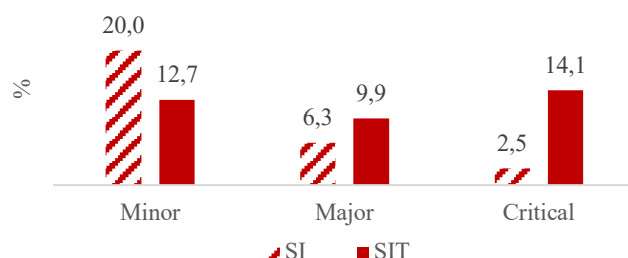
Figure 5.26. Comparable interpretations – Frequency of reduced renditions

Overall, non-corresponding renditions occurred more often in SI than in SIT, except for major and critical omissions, which appeared less frequently in SI than in SIT.

5.4.3.2. Form-related features

Using the model for assessing the appropriateness of the target language (see Subsection 5.3.2.2), the findings for differences in form-related features between SI and SIT are presented here in terms of inaccurate pronunciation, inadequate lexical choices, and unusual syntax. Specifically, inaccurate pronunciation was not identified in SI but occurred twice in SIT. Unusual syntax occurred 7 times in SI and 11 times in SIT. There were 9 inadequate lexical choices in SI and 10 in SIT (see Figure 5.27).
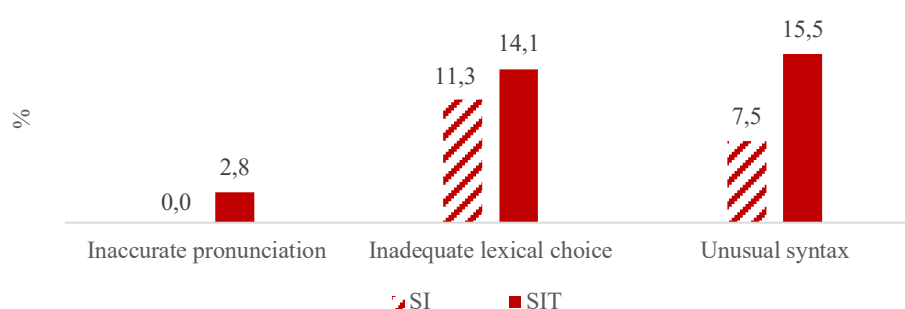
Figure 5.27. Comparable interpretations – Frequency of inappropriately formed renditions

The inadequate lexical choices identified in SI were mostly associated with the adoption of an atypical collocation or a literal rendition that had the equivalent meaning but deviated from the idiomatic target-language expression. For instance, as shown below, '英明引导力' was not a common Chinese phrase to describe 'able chairmanship' because the adjective '英明（的）' (able) usually collocates with the noun '领导' or '带领' (leadership).

Example 5.1

(Source: '09/06/2016-11:02:36AM-Sweden-EN-Interpretation-A')
SS: '… the able chairmanship of Peter Martinis and his team'
TS: '… 皮得•马丁内斯以及他的团队的英明引导力'
Tn: … the able leadership of Peter Martinis and his team

Likewise, this applied to some of the inadequate lexical choices identified in SIT. As illustrated in the example below, '一个草稿形式' was a word-for-word rendition of the original 'in draft form'. However, this sounded awkward because when expressing the original idea in Chinese, it is more common and natural to use '在起草阶段' (in drafting stage) than this.

Example 5.2

(Source: '09/06/2016-05:36:13PM-Canada-EN-Interpretation-A')
ST: 'The current round of research is still in draft form, …'
SS: 'The current round of research is still in draft form, …'
TS: '目前这一轮的研究呢仍然是一个草稿形式, …'
Tn: Currently this round of research is still a draft form, …

In addition, some of the inadequate lexical choices in SIT were related to the use of a Chinese equivalent for the original with a misleading connotative meaning (which has been demonstrated in Table 5.6 in the interpretation with text of the Italian delegate's speech). As shown in Example 5.3, although the rendition '更低廉的' (cheaper) ostensibly corresponded to the original 'less expensive', it conveyed an unintended negative meaning – low quality – if taken literally by the target audience. Compared to this, '更低成本的' (lower-cost) would be a more appropriate equivalent of 'less expensive' (The example also illustrates a case of a major substituted rendition because 'satellites' was misinterpreted as '行星' (planets).)

Example 5.3

(Source: '09/06/2016-05:36:13PM-Canada-EN-Interpretation-A')
ST 'less expensive satellites'
SS: 'less expensive satellites'
TS: '更低廉的行星..'
Tn: cheaper planets

Overall, the three types of form-related features all occurred less often in SI than in SIT. Compared to the difference in inaccurate pronunciation, the difference between the interpretations was much more obvious in the frequency of unusual syntax and inadequate lexical choices.

5.4.3.3. Delivery-related features

Adopting the methodology for assessing delivery-related features (see Subsection 5.3.2.3), the findings for differences in these between SI and SIT are presented here concerning speed, pauses, repeats, repairs, utterance-final particles, and intonation. Specifically, SI was delivered at a faster speed than SIT. Compared to those of SIT, the speech and articulation rates of SI were 26 and 9 wpm higher, respectively (see Figure 5.28). This is to say that Interpreter A paused more in delivering SIT.
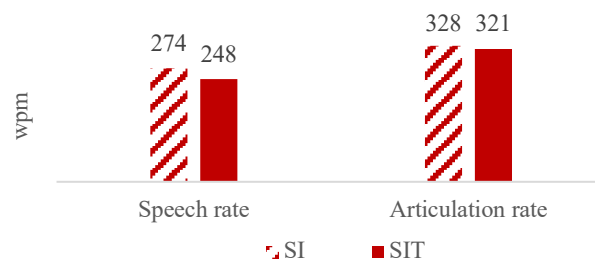
Figure 5.28. Comparable interpretations – Speed

As shown in Figure 5.29, unfilled pauses accounted for a smaller proportion of speech duration in SI than in SIT, with a difference of 6%, and lasted 4 seconds shorter per minute in SI than in SIT.
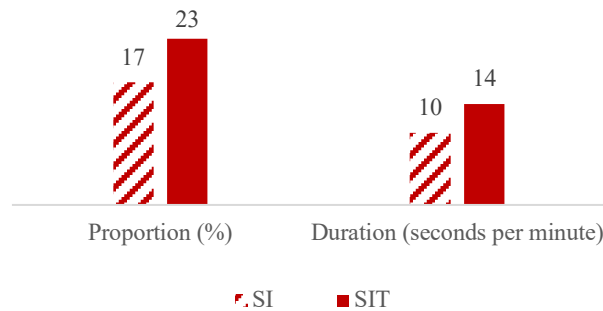
Figure 5.29. Comparable interpretations – Proportion and duration of unfilled pauses

Additionally, unfilled pauses overall occurred more frequently in SI than in SIT. Non-grammatical pauses occurred slightly less often in SI than in SIT, which was also the case with long grammatical pauses (see Figure 5.30).
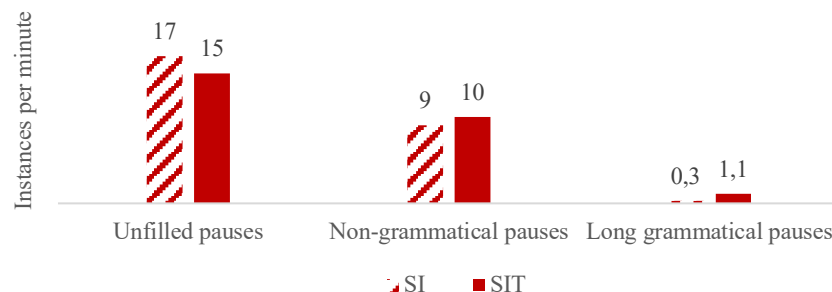
Figure 5.30. Comparable interpretations – Frequency of unfilled pauses

Figure 5.31 shows the frequency of filled pauses. Specifically, syllable lengthening occurred less often in SI than in SIT; voiced hesitation was not found in SI but occurred in SIT with a lower frequency than syllable lengthening.
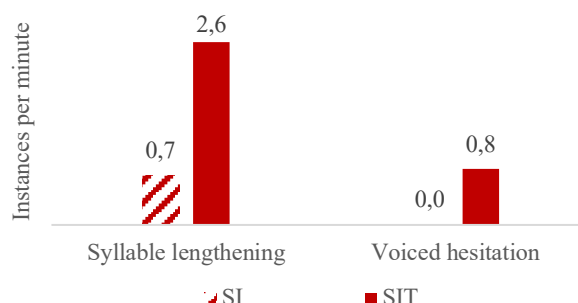
Figure 5.31. Comparable interpretations – Frequency of filled pauses

Repeats occurred in SIT but not in SI. Repairs occurred in both interpretations, and their frequency in SIT was lower than that in SI (see Figure 5.32).
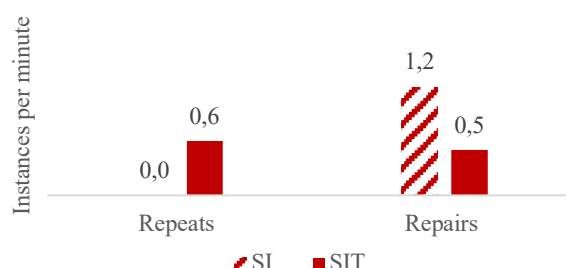
Figure 5.32. Comparable interpretations – Frequency of repeats and repairs

Utterance-final particles occurred at a lower frequency in SI than in SIT (9 and 10 times per minute, respectively). SIT had a slightly lower pitch variation than SI, as indicated by the lower standard deviation of pitch (30 and 32 Hz, respectively).

Overall, the above findings show the differences between SI and SIT in the various features related to content, form, and delivery. These will be discussed in detail in the next section.

5.5. Discussion

The fieldwork study has shown that SI with text is a particularly prevalent task performed in UN booths, as interpreters there often work with delegates' speech scripts that are made

available to them. Yet, neither SI with text nor the UN context have been the object of much empirical research. There are thus far only a few studies on cognitive processing in SI with text (e.g., Seeber 2017a; Yang 2019), and only a few experiments have been conducted on the effect of SI with text on interpreting quality (e.g., Lambert 2004; Setton and Motta 2007), let alone research tailored to a specific context where the task of SI with text is performed on a frequent and routine basis. Furthermore, despite some published literature on interpreting at the UN (e.g., Baigorri-Jalón 2004; Diur 2015), little, if anything, is known about the quality of that service especially regarding SI with text.

The study reported here provides a data-based account of what is typical of UN speeches, including the issues of speed and syntax that have been raised in the relevant literature (e.g., Shermet 2017, 2018). Most importantly, the study examined the claims made by researchers in interpreting studies (e.g., Cammoun et al. 2009; Gile 2009; Setton 2015) that the use of text during SI affects the quality of interpretations. These focal points were chosen because, to date, much of what has been reported about UN speeches is based on anecdotal accounts from UN interpreters (e.g., Shermet 2017). Although some researchers and practitioners (e.g., Baigorri-Jalón and Travieso-Rodríguez 2017; Barghout et al. 2015; Diur 2015) have attempted to gather empirical evidence for these accounts, few have thoroughly examined the typical features of UN speeches. Moreover, experimental findings on different quality features have shown that the impact of SI with text can be positive (e.g., Lambert 2004; Spychała 2015) or negative (e.g., Pyoun 2015; Setton and Motta 2007); consequently, uncertainty remains over the impact of working with text on simultaneous interpreters' output.

This study set out to investigate 1) whether the output quality of a simultaneous interpreter working with text differs when compared to working without text, and 2) how doing SI with text impacts quality in terms of content-, form- and delivery-related features. Also, it was hypothesised that performing SI with text 1) improves the content (i.e., accuracy and completeness) of interpreters' output and 2) negatively impacts the form and delivery (e.g., syntax and fluency) of interpreters' output. To answer the questions and test the hypotheses, this study analysed a corpus of 39 speech scripts, 41 read speeches and 41 corresponding simultaneous interpretations with and without text that occurred naturally in the 59th COPUOS session which I observed as a researcher, having previously attended in the 58th session as an interpreter trainee. This study has drawn on established theoretical frameworks (e.g., Moser-Mercer 1996; Romero-Fresco and Pöchhacker 2017) and adopted and developed analytical

tools for assessing various interpreting quality features related to content, form, and delivery. It is the first large-scale research on SI with text using an authentic corpus of both spoken and written discourses in conference settings. The findings of this study were generated from a quantitative corpus analysis of data collected from an authentic UN conference that was assessed with regard to 17 output-related features of SI.

5.5.1. Read speeches

Before talking about the impact of SI with text, it is necessary to understand the particulars of read speeches as the 'pre-condition' for SI with text in the UN context. If there were no read speeches, the specific type of SI on which this research focuses would simply not exist. As discussed in Subsection 1.2.2 and shown through the fieldwork study, most UN delegates when making a speech rely on the reading of pre-written scripts, and it was because of this that SI with text has become a common practice among UN interpreters. Despite being prevalent in UN conferences, read speeches remain an underexplored subject of interpreting studies. Furthermore, although interpreting read speeches has been reported to overtax interpreters and cause failures in SI performance due to difficulties like complex syntax and high speed (e.g., Seeber 2017b; Setton 2015), the empirical literature on these issues is scarce and provides only anecdotal or limited evidence.

One of the major concerns raised by the UN interpreting community (e.g., Baigorri-Jalón 2004; Shermet 2018) is that whatever scripts UN delegates read when addressing their audience are characterised by their long and complex syntactic structures. The findings of this study are consistent with these accounts, showing that almost all the analysed speeches had a high density – about 80-90% – of composite sentences (see Figure 5.11). This adds empirical weight to the anecdotal evidence from the UN interpreting community on the extensive use of complex syntax in read speeches in UN conferences.

Another major concern expressed by UN interpreters (e.g., Baigorri-Jalón 2004; Diur 2015; Shermet 2017) is UN delegates' fast delivery. This is because fast speech rate is perceived to saturate the limited mental capacity of simultaneous interpreters (e.g., Barghout et al. 2015) and, as suggested by some research (e.g., Yang 2019), to have a negative effect on their performance and output quality when they work with text, be they trainees or professionals.

Regardless of this, the claim about the high speed of UN speeches has been empirically tested by only a few authors. For example, Diur (2015) observed that two speeches selected randomly in a IAEA meeting were delivered at 158 and 170 wpm. Barghout et al. (2015), in their investigation of 20 randomly picked OHCHR speeches, found that the speech rate in conference settings on average was higher than the usually suggested 100-130 wpm.

The findings of this study partly support the observations of Diur (2015) and Barghout et al. (2015), showing that some of the analysed speeches were spoken at a rate above the UN's recommended threshold, 120 wpm (see UN 2002), and up to 156 wpm (see Figure 5.12). On the other hand, the findings are different from those obtained by Barghout et al. (2015), showing that the mean delivery rate of the analysed speeches was 121 wpm (see Figure 5.12), which is very close to the upper end of the UN's recommended range. This difference could be attributed to many variables, such as the speakers' language proficiency and speech style. Yet, the high rates found by Barghout et al. (2015) may also be due to the fact that in the session where the 20 OHCHR speeches were delivered, the delegates were informed at the beginning of the very limited time available for their statements (2-3 minutes for each state), whereas this was not the case for the delegates who attended the 59th COPUOS session and made the speeches analysed in this study. As discussed in Subsection 1.2.2, time pressure induces speakers to speak as fast as possible, which may explain why the delivery rate of the speeches investigated by Barghout et al. (2015) was higher than that of the speeches analysed in this study.

In the present study, the two comparable speeches selected from the corpus for methodological reasons were delivered at rates of 148 and 156 wpm, which are widely considered to be fast and 'interpreter-unfriendly' (e.g., Gerver 2002; Lederer 1981; Seleskovitch 1978) and were found in previous experiments to impose cognitive overload on interpreters (e.g., Barghout et al. 2015; Yang 2019). These speeches therefore reflect what has been described as the typical situation of interpreting in the UN.

5.5.2. Impact of SI with text

SI with text is a highly complex task, and it is not clear how this complexity affects the interpreters' output. Among scholars in interpreting studies, some (e.g., Setton 2015) put

forward that using text in SI might interfere with interpreters' ability to grasp and render dual input properly; some (e.g., Alekseeva 2001) state that this could help interpreters feel at ease and facilitate their work; some (e.g., Gile 2009; Seeber 2017a) hold the view that this could be both advantageous and disadvantageous to interpreters as reading the written input complements their listening comprehension whereas processing it makes them experience cognitive overload. Among the available empirical studies, some affirm the positive impact of SI with text on interpreters' performance (e.g., Cammoun et al. 2009; Coverlizza 2004; Lambert 2004; Spychała 2015), while others report the opposite (e.g., Coverlizza 2004; Pyoun 2015; Setton and Motta 2007). Irrespective of the different findings, the methodological limitations in these studies (e.g., lack of appropriate research design) make it difficult to draw solid conclusions. Therefore, questions remain as to whether SI with text really has an impact on the quality of interpretations, and if so, what that impact might be.

The method adopted in this study is different from previous studies in two respects. First, it collected evidence from a 'natural experiment' where interpreters in a UN conference were assigned to perform the tasks of SI with and without text for read speeches. Second, it compared interpretations with and without text of comparable speeches across a wide range of features relating to content, form, and delivery that comprehensively indicate interpreting quality.

The study reported here confirms that the interpreter's output varied between when he worked with the speech script and when he did not. This was reflected by the differences in various quality features between his output in SI with and without text that mainly manifested themselves in the following aspects: accuracy, completeness, fluency, syntax, and lexical choices. These findings thus provide an affirmative answer to the first research question of this study, 'Is there a difference in simultaneous interpreters' output quality when they interpret a read-aloud speech with the script available in the booth (SI with text) compared to working without the script (SI without text)?'.

The nature of the differences in quality between the output in SI with and without text is highly uneven. This will become clear from the discussion of the findings that demonstrate how the outputs in SI with and without text differ from one another, beginning with form-related features.

5.5.2.1. Form-related features

When reading the source-language speech script during SI, interpreters may retain the original linguistic structure in the target-language speech. Consequently, features that compromise the quality of the form of the target language, such as mispronunciation, unusual syntax, and inadequate collocations, may occur more frequently in their renditions. It was hypothesised in this study that working with text in SI would negatively impact the form of interpreters' output. To test the hypothesis, this study analysed three features that indicate the inappropriate use of the target language, namely unusual syntax, inaccurate pronunciation, and inadequate lexical choices. To accurately identify and classify these features, it employed available linguistic resources (e.g., dictionaries and grammar books) and the assessment model developed based on Lee's (2014) target-language quality assessment. This study found that the interpreter did not have any incorrect pronunciation when not using the script but mispronounced two words when using the script. The difference in the occurrence of inaccurate pronunciation between the SI and SIT output is too small to offer robust support for the assumed adverse effect of SI with text on the form of interpreters' output. On the other hand, the findings for unusual syntax and inadequate lexical choices yield evidence confirming that hypothesis:

As observed in experiments where student and professional interpreters demonstrated a poor ability to formulate natural target-language sentences during SI with text (e.g., Setton and Motta 2007), the interpreter in this study used unusual syntax twice as often when working with the script than without – 15.5 and 7.5%, respectively (see Figure 5.27). These findings are consistent with the suggestion by Setton and Motta (2007) that working with text makes simultaneous interpreters concentrate on the linguistic structure more than on the meaning of the original and, consequently, retain the source-language syntax even if it appears awkward or unacceptable in the target language.

Due to methodological constraints (e.g., limited data and high variability), researchers like Lamberger-Felber and Schneider (2008) did not find solid evidence for an association between increased lexical interference and the use of text during SI. However, the differences observed in this study in the occurrence of inadequate lexical choices between the comparable interpretations provide further evidence for this association. In this study, the interpreter adopted inadequate lexical choices more frequently when working with the script than without

– 14.1 and 11.3%, respectively (see Figure 5.27). More importantly, unlike those observed in his output in SI, the inadequate lexical choices in his output in SI with text were often associated with a literal rendition of the original word or phrase; these lexical choices were either unnatural in the target language or carried a misleading connotative meaning. These findings thus confirm the association between the occurrence of incorrect target-language usage in interpreters' output and the reliance on the script during SI observed by Lamberger-Felber and Schneider (2008).

Based on the above findings, part of the second research question posed in this study can be answered – that is, doing SI with text negatively impacts interpreters' output in terms of form-related features, especially syntax and lexical choices.

5.5.2.2. Delivery-related features

When interpreters divide their limited cognitive capacity between performing SI and reading scripts, the processing capacity required for individual activities – including production – is likely to be smaller than when they do pure SI. Consequently, features that compromise the quality of their speech delivery, such as monotonous intonation, hesitation, and repetitions, may increase in their output. It was assumed in this study that working with text would negatively affect the delivery of simultaneous interpreters' output. Based on that assumption, this study focused on the speed, fluency, and intonation of the interpretations, measured in terms of speech rate, articulation rate, unfilled pauses, long grammatical and non-grammatical pauses, syllable lengthening, voiced hesitation, repeats, repairs, and pitch variation. These features were quantified using the speech analysis software Praat to detect differences between the interpreter's output in SI with and without text. Furthermore, this study analysed Chinese utterance-final particles that indicate the modality of utterances, the use of which may differ in SI with and without text.

As has been observed in experiments where disfluencies, such as pauses and varying speed, increased in interpreters' output during SI with text compared to during SI (e.g., Coverlizza 2004), the interpreter in this study paused longer and more often and had voiced hesitation, syllable lengthening, and repetitions of words in his utterances more frequently when working with the script than without. This was reflected by the longer duration (4 seconds per minute)

and larger proportion (6%) of unfilled pauses as well as more frequent repeats, syllable lengthening, voiced hesitation, non-grammatical pauses, and long grammatical pauses in his output in SI with text. These findings thus confirm the hypothesis and are in line with those obtained experimentally. The findings also suggest that interpreters' fluency decreases in SI with text compared to SI.

As regards self-corrections, intonation and modality in the interpreter's utterances, the findings of this study do not support the assumed negative effect of SI with text on interpreters' delivery. In summary, the interpreter used utterance-final particles more often, had a slightly lower pitch variation, and made repairs less frequently when working with the script than without. In terms of the interpreters' use of utterance-final particles, a higher frequency was detected in his output in SI with text than in SI (10 versus 9 times per minute). However, this difference seems too small to indicate a change in interpreters' modality of utterances between when they use text during SI and when they do not. As regards the findings on the interpreter's pitch variation, although a lower value was detected in his speech when he worked with the script than without (30 Hz versus 32 Hz), this difference again appears too small to indicate a more monotonous intonation in interpreters' output during SI with text. Moreover, these findings may not be applicable to SI into other languages. This is because the target language that this study focuses on is Mandarin Chinese, in which tones are used to provide semantic meaning carried by words; yet in non-tonal languages, such as English, tones are used to emphasise a particular emotion (e.g., anger, sarcasm, or enthusiasm). Finally, the findings concerning the interpreter's self-repairs indicate a decline of disfluencies in interpreters' output in SI with text, which is different from the findings of previous experiments. This difference can be explained by many factors (e.g., the difficulty of the source speech and the speaker's speech rate), among which stands out the interpreter's preparation time. The interpreters in, for example, Coverlizza's (2004) experiment had ten minutes to familiarise themselves with the speech script before doing SI with text, whereas the interpreter in this study was provided with the speech script approximately 3 hours in advance (see Subsection 5.4.1.2). The more interpreters prepare ahead of time, the more they can familiarise themselves with the source speech; consequently, during SI, the less effort they put into comprehending the source speech, the more effort they can spend on production. This may explain why previous experiments found that using text in SI had a negative impact on the fluency of interpreters' delivery whereas this study found evidence to the contrary.

Based on the findings discussed above, part of the second research question of this study can be answered – that is, the impact of SI with text on the delivery-related features of interpreters' output is both negative and positive. Positive because of the reduction of repairs and syllable lengthening in the interpretation, and negative in the sense that doing SI with text generates more disfluencies of other types, such as repeats, silent pauses, and voiced hesitation.

5.5.2.3. Content-related features

Among the small number of studies comparing interpreters' output in SI with and without text, only a few examined interpretations in terms of content (e.g., Coverlizza 2004; Lamberger-Felber 2001, 2003; Pyoun 2015; Setton and Motta 2007; Spychała 2015). These studies have yielded different findings, with some suggesting a decline in non-corresponding renditions during SI with text (e.g., Lamberger-Felber 2001, 2003; Lambert 2004; Spychała 2015) and others reporting an increase in omissions during SI with text, especially around where speakers' utterances deviated from their speech scripts (e.g., Pyoun 2015). However, these findings have limited reliability because of methodological deficiencies. For instance, the assessment of source-target correspondence in some studies (e.g., Spychała 2015) was based only on the recordings, not on speeches and interpretations transcripts; some studies (e.g., Lambert 2004) analysed interpretations by novice interpreters with limited training in SI; very few studies specifically described how the content-related features that they focused on were defined, identified, and quantified, and hardly any conducted a thorough comparison between the output in SI with and without text concerning content. Due to these methodological shortcomings, and the inconsistent findings across these studies, the evidence on how doing SI with text impacts the content of interpreters' output remains inconclusive. To fill the gap, this study made a comparison between the output in SI with and without text in terms of content-related features.

When an entire speech is written out and provided to interpreters in advance of its delivery, interpreters can familiarise themselves with the speech prior to interpreting. Hence, they are more likely to grasp and convey the content of the speech fully and accurately with the use of text during SI than without. It was assumed in this study that working with text would improve simultaneous interpreters' output with regard to content-related features. Using transcripts, this study analysed the sense consistency between source and target speeches in terms of expanded, substituted, and reduced renditions. To accurately identify, classify, and quantify these, this

study developed an assessment model based on Romero-Fresco and Pöchhacker's (2017) NTR model for assessing accuracy and completeness; it also draws on Barik's (1994) classification of omissions, additions and substitutions in combination with Wadensjö's (1998) definition of expanded, substituted and reduced renditions. To measure the impact of SI with text on interpreter's output regarding content, this study further classified expanded, substituted, and reduced renditions into minor, major, and critical according to the extent of non-correspondence with the original.

As far as completeness is concerned, the findings of this study suggest that using text during SI improves interpreters' output by reducing the risk of small omissions. This was indicated by the less frequent occurrence of minor reduced renditions in the interpreter's output in SI with text than in SI – 12.7 and 20%, respectively (see Figure 5.26). These findings extend Lamberger-Felber's (2001, 2003), who observed a decrease (from 6% to 11.9%) in the omission of numbers and proper names with the use of text during SI. However, these findings are different from those of Coverlizza (2004) and Pyoun (2015), who reported an increase in omissions with the use of text in SI. One of the possible reasons for this difference is the time available for interpreters' advance preparation: the interpreters in Pyoun's (2015) study were given between 5 and 20 minutes (with a mean of 11 minutes 25 seconds) to prepare for SI with text and, as explained earlier, those in Coverlizza's (2004) study had 10 minutes whereas the interpreter in this study had about 3 hours. The more preparation time interpreters have, the smaller the risk that they omit information, which may explain why Coverlizza (2004) and Pyoun (2015) observed more omissions in the output in SI with text than in SI while this study found the opposite. The second possible reason for the difference may lie in the way of analysing the completeness of interpretations: Pyoun (2015) assessed omissions without further classification; Coverlizza (2004) investigated the omission of words, phrases and sentences but did not consider to what extent the omissions changed the meaning of the original. Analysis at the general level can lead to different findings when compared to an analysis at a more specific level, and this can explain the inconsistent findings discussed here. Another reason for the difference between the studies could be interpreters' experience and the delivery speed of source speeches: Pyoun (2015) studied professional interpreters' interpretations of speeches spoken at 230-257 syllables per minute.[27] Coverlizza (2004) examined student

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[27] Won (2010, cited in Pyoun 2015) proposed an input rate of 212 syllables per minute for SI from Korean, which was the focus of Pyoun's (2015) study.

interpreters' interpretations of slow speeches spoken at 110 and 115 wpm. This study investigated professional interpreters' interpretations of fast speeches spoken at 148 and 156 wpm. As discussed in Subsections 1.2.5 and 5.5.1, interpreters' experience and the speed of the source speech both have an impact on SI performance, the which thus may account for the different findings. That is, the more experienced interpreters are, the more likely that they cope well with SI tasks by reproducing the speech without omitting lines; the faster the speech rate, the higher the risk that interpreters fall behind the speaker and miss something that he or she has said.

On the other hand, this study found that the interpreter made major and critical reduced renditions more frequently while working with the script as compared to without (9.9% versus 6.3%, and 14.1% versus 2.5%, respectively). Specifically, some of these reduced renditions were due to the interpreter's omission of spoken input that was not written in the script (see, for example, the critical reduced rendition in Table 5.5). These findings suggest that doing SI with text has a negative impact on interpreters' output by increasing the risk of substantial omissions. Also, these findings are similar to Pyoun's (2015) and Coverlizza's (2004) observations that using text during SI generates omissions, especially around where speakers depart from their scripts. Moreover, the findings provide empirical evidence that omissions occur when simultaneous interpreters rely too much on reading speech scripts to be aware of speakers' utterances that are not included in their scripts (Gile 2009; Setton 2015). Nevertheless, most of the critical reduced renditions made by the interpreter in this study while he was reading the script were due to the omission of consecutive source speech segments stated in both the speech and the script. One good example of this is shown in Example 5.4.

Example 5.4

(Source: 09/06/2016-05:36:13PM-Canada-EN-Interpretation-A)
ST: 'One event that caused additional debris in 2015 – the break-up of a rocket stage in geosynchronous orbit – seemed like a relatively minor event on paper, because only 10 pieces of debris were identified and catalogued. But really what this event speaks to is the limited ability to identify and track debris in this high in orbit – there is much more debris in space than we can adequately see and monitor, particularly in higher orbits.'
SS: 'One of them that caused additional debris in 2015 was the break-up of a rocket stage in geosynchronous orbit. It seemed like a relatively minor event because only 10 pieces of debris were identified and catalogued. But really the event speaks to a broader story but limited the ability to identify and track debris in this high orbit. There is much more debris in space than we can adequately see and monitor, particularly higher up.'

TS: '其中的一个额外造成额外空额碎片呢就是 2015 年就是一个火箭在空间地球静止轨道上分解了。其实在这个高额高更高纬度的这个轨道上呢其实有更多的空间碎片。'

Tn: One of them that eh caused eh additional space debris was in 2015 was the break-up of a rocket in geosynchronous orbit. Actually in this high eh high higher-altitude orbit, there is actually much more space debris.

As can be seen, the interpreter omitted two compound sentences of the original (and the delegate made very slight modifications to his speech). This also demonstrates the adverse impact of SI with text on the completeness of interpreters' output. More importantly, the findings suggest that omissions occur in SI with text when interpreters fall behind and miss the speaker's deviations, as put forward previously (Coverlizza 2004; Pyoun 2015; Setton 2015), and when interpreters skip words or sentences stated in both the speech and script in order to catch up with the speaker.

The findings on the difference in completeness between the interpreter's output in SI with and without text illuminate only part of the complexity of how SI with text affects interpreters' output concerning content-related features. To get a fuller picture of this impact, it is also important to look at the findings illustrating how the interpreter's output in SI with and without text differed in accuracy.

This study found that the interpreter made substituted and expanded renditions of both minor and major types less often when working with the script than without (see Figure 5.25 and Figure 5.24). These findings are in line with those of Lamberger-Felber (2001, 2003) and Spychała (2015), suggesting that doing SI with text improves interpreters' output by reducing the risk of inaccurate renditions. This study also found empirical evidence that using text in SI benefits interpreters by preventing them from mishearing and miscomprehending the auditory input, especially details (Cammoun et al. 2009; Gile 2009; Seeber 2017a). This was reflected by one minor substituted rendition identified in the interpreter's output in SI (see Table 5.4), which occurred when the interpreter perceived incorrectly the name uttered by the delegate. Had he worked with the script of the speech, this substitution could probably have been avoided.

Regardless of the above, working with text during SI does not always help interpreters grasp detailed information; rather, it can lead them to ignore or misinterpret what the speaker is saying. As has been reported, the interpreter in this study, when working with the script, made

some major and critical substituted renditions because he misunderstood the source utterances that were improvised or modified by the delegate. Another observation demonstrating this point is that the interpreter sometimes uttered information that was stated in the script but not in the speech. Although this did not occur when he rendered the Canadian delegate's speech, this was observed in some of his interpretations of the other read speeches. For instance, as shown in Example 5.5, when interpreting the Brazilian delegate, he uttered '停下来' (stop to), which was an expanded rendition corresponding to the information in the script but not to that in the speech.

Example 5.5

(Source: '09/06/2016-04:24:00PM-Brazil-EN-Interpretation-A')
ST: 'As we stop to consider the extent to which our societies rely on space sciences, …'
SS: 'As we consider the extent to which our societies rely on space sciences nowadays, …'
TS: '随着我们需要停下来来考虑一下我们社会仰仗于的这些空间科学，…'
Tn: As we need to stop to consider the space sciences relied on by our societies, …

These findings hence suggest that doing SI with text can negatively affect the accuracy of interpreters' output. They also provide empirical support for the view that interpreters relying too much on reading the speech script during SI can miss the speaker's deviations (Gile 2009; Setton 2015).

Furthermore, it is interesting to note in this study that the interpreter made no critical expanded renditions and very few critical substitutions in either interpretation. Based on these findings and those just mentioned, one can reasonably infer that working with text during SI affects the accuracy of interpreters' output, but rarely to the extent that will lead to substantial non-correspondence which distorts the entire meaning of the original. After all, the interpreter on whom this study focused is specially 'UN-trained' and 'UN-accredited', which is to say that he has met perhaps the highest standard for providing SI services in the conference interpreting community and has been experienced in working with text during SI at UN conferences. Therefore, it was very unlikely for him to provide an interpretation that departed considerably from the source speech, whether he worked with the script or not.

Based on all these findings, the first sub-question of the second research question posed in this study can be answered – that is, the impact of SI with text on the content-related features is both positive and negative. Positive in the sense that SI with text is associated with is a decrease

in small non-corresponding renditions, and negative due to the increase in substantial substituted and reduced renditions.

Overall, the findings of this study have successfully answered the research questions, which were to identify whether, and if so how, the output in SI with text differs from that in SI regarding content-, form- and delivery-related features. These findings have partially confirmed and partially refuted the hypotheses, suggesting that the impact of SI with text on interpreters' output quality is multifaceted and far more complex than previously recognised. Put simply, this impact is double-edged. On the positive side, using text during SI enhances interpreters' output in terms of fluency, syntax, and lexical choices as well as the correspondence of details between the source and target speeches. On the negative side, it increases the risk of substantial substitutions and omissions in the interpreters' output.

5.5.3. Limitations

The contribution made by this study to the understanding of the complexity of SI with text has several limitations. The first and probably most obvious one concerns the objectivity of the corpus analysis. Among the analysed features, some (e.g., speech rate, unfilled pauses, and pitch variation) were measurable and assessed with the help of the analytical tool Praat, whereas others, especially the meaning-related ones (i.e., non-corresponding renditions), were analysed by a single assessor (myself). As a self-funded PhD student, I was unable to recruit qualified experts to validate the methodology and examine all the materials in detail; neither was there any commonly accepted standard in literature for SI quality assessment. To overcome this, I sought to make the analysis as well-defined and transparent as possible.

The second limitation is that, although this analysis covered a breadth of quality features relating to content, form, and delivery, it did not go into depth on these features. However, with the large amount of work undertaken, a trade-off had to be made between the depth and breadth of the analysis. Given the absence of comprehensive research into the impact of SI with text on interpreting quality, I decided to investigate in this study as many quality features as possible to provide a full view of this impact. Future research on this topic could delve further into the analysed features, for instance, with regard to interpreters' intonation especially when SI with text is made into a non-tonal language.

Another limitation relates to interpreters' advance preparation for SI with text. This study did not rigorously account for the time that the interpreters spent on preparing the scripts prior to the delivery of the speeches. Although I was aware of this factor during the fieldwork study, I had to remain in the assigned booth so as not to disturb the interpreters while they were preparing and working in the Chinese booth; consequently, it was not possible for me to know the exact amount of time that they spent on text preparation. As discussed earlier, preparation for SI with text can influence the quality of interpreters' output. Therefore, future studies should control for differences in interpreters' preparation time when investigating the impact of SI with text on interpreting quality.

Fourthly, this study compared the interpretations with and without text of fast read speeches rather than of those delivered at the generally recommended speed. This was because the Swedish delegate's speech was the only one in the corpus that was rendered via SI without text and suitable for methodological reasons; therefore, the Canadian delegate's speech, rendered via SI with text, was chosen because it had the most similarities with that of the Swedish delegate in various parameters, including speech rate and articulation rate. These speeches can be said to reflect the typical SI experience at the UN. But might simultaneous interpreters not experience cognitive overload when rendering moderately paced speeches, regardless of the use of text? If this were the case, would their output in SI with text still involve, for instance, more pauses and substantial omissions as compared to that in SI? These questions need to be addressed by future research.

Lastly, there are a number of research questions, besides those mentioned earlier, that were raised but not answered in this study. One of the most intriguing concerns the relationship between interpreters' advance preparation time and their output in SI with text. If they do not have time for preparation, will their output in SI with text differ from that in SI, and if yes, how? Another important question relates to the context where the research is conducted. In a conference setting where SI with text is not a prevalent task in booths, will there be differences between interpreters' output in SI with and without text, and if yes, to what extent? Given the limitations of both time and scope, this study could not address these questions. Thus, much more research is needed to adequately examine the complexity of SI with text.

Before closing this discussion, a few words need to be said regarding the comparison that this study made between two interpretations delivered by a single interpreter doing SI with and without text. Questions may be raised whether this can offer solid evidence of the impact of SI with text on interpreters' output. However, it should be borne in mind that all the data analysed in this study was collected from the observed COPUOS session and that SI with text was performed in the Chinese booth there most of the time. Consequently, it was impossible to find sufficient and similar numbers of interpretations with and without text available for analysis. On the other hand, through using the available simultaneous interpretations performed with and without text, this study conducted a 'natural experiment' focusing on one interpreter in true conditions. In choosing the comparable interpretations, I analysed the performance of the interpreter who produced the interpretations and came from a similar background as many UN interpreters. According to Diur (2015), the majority of UN staff interpreters have an MA in conference interpreting, 15-30 years of experience as a professional interpreter and 5-15 years of experience at the UN. The analysis ensured that the interpreter's performance was consistent and comparable throughout the observation period and his interpretations were largely comparable to those by another interpreter who had a similar educational and working experience at the UN. The analysis also evidenced that the corresponding source speeches shared many similarities with the rest and possessed largely comparable characteristics concerning syntactic complexity, number of technical terms, speed, and other delivery-related features.

In summary, this study has identified how interpreters' output could be affected by working with speakers' scripts during SI. The findings have provided novel and valuable insights that are highly reflective of interpreters' real-world experience in a given context, indicating that doing SI with text impacts interpreters' output both positively and negatively because it improves the syntax, fluency, lexical choices, and source-target correspondence for details but may lead to substantial substitutions and omissions in the interpretation. To understand whether and how this impact is perceived by the users of SI services, particularly regarding form- and delivery-related features, a further investigation was conducted and will be presented in the following chapter.

Chapter 6. Quality in SI with Text from the User Perspective

The perspective of users, as described in Subsection 1.3.2.3, plays an important role in evaluating the interpreting service because whether it is satisfactory or not depends on the degree to which the interpreter's output meets their requirements and preferences. This chapter presents a reception study with a group approximating the users of the interpretations compared in the corpus-based study about their perceptions and expectations of SI. It starts with outlining what the study aimed to achieve, followed by describing how it was designed and implemented. It then reports the findings and ends with a discussion mainly on their implications for the quality in SI with text from the user perspective.

6.1. Objectives and research questions

The objective of this study was to identify how users perceive the quality of SI with text. Based on the third main research question stated in Section 3.1 (i.e., 'How do users perceive the quality of SI with and without text?'), the following research questions were developed:

1. Do users have preferences regarding simultaneous interpretations performed with and without text?
   If yes, what are their preferences in terms of:
   - form-related features such as target-language naturalness?
   - delivery-related features such as fluency and intonation?
2. Do their preferences correspond to their expectations of SI services?

Considering that users rely heavily on 'superficial' factors when judging the quality of interpretations, as mentioned in Section 3.1, it was hypothesised that users prefer the output in SI without text to that in SI with text concerning both form- and delivery-related features. To answer the research questions and test the hypotheses, this study was conducted in the form of a survey-based experiment involving a group with a professional profile similar to that of the Chinese delegates attending the observed 59th COPUOS session. In part, the study was inspired by Collados Aís's (1998) research comparing user expectations and quality judgments. It was designed to investigate the group's perceptions and preferences concerning various

features relating to form and delivery in the interpretations studied in Chapter 5. The other part was a replication and extension of Kurz's (1993) user-expectation surveys. It explored the group's attitudes to the importance of SI quality criteria and examined whether their preferences matched their expectations.

6.2. Methodology

This study employed a blind test (see Stuart-Hamilton 2010), where the respondents were not informed about interpreting modes, to elicit their perceptions concerning form- and delivery-related features of the interpretations compared in the corpus-based study. In order to relate the respondents' perceptions to their expectations regarding SI quality, this study sought to explore what importance they attached to various output-related SI criteria.

6.2.1. Target population

The initial idea regarding the target population was to survey the original users of the interpretations compared in the corpus-based study, namely the Chinese delegates who attended the observed 59th COPUOS session. However, as their contact details were not available to me, the alternative was to find a group with comparable characteristics regarding profession, expertise, language, location, work experience, and education level. As discussed in Subsection 1.3.2.3, various user groups may have different requirements, preferences and expectations towards the SI service received. Therefore, it was crucial to survey individuals with characteristics approximating those of the Chinese delegates (see Snelling 1989).

6.2.1.1. Chinese delegates' profile

Using the participant list of the 59th COPUOS session, detailed information was obtained about the Chinese delegates' names, gender, titles or positions, and institutional affiliations. One-third of them (6 out of 19) were diplomats stationed at their missions to the UNOV (e.g., Chinese Permanent Mission to the UN and Other International Organisations in Vienna), whereas the rest worked as directors or technical experts for space-related state entities in mainland China (e.g., China Manned Space Office, China National Space Administration, and

Beijing University of Aeronautics and Astronautics). Comparing that list with those of earlier COPUOS sessions, similar information was found on the delegates, especially their positions and institutional affiliations. Furthermore, an online search was conducted to obtain more information about these delegates. Except for the diplomats, for whom such information was not publicly accessible, further information was found on the experts, including their age (or graduation year from university) as well as educational and occupational trajectories. This information pointed to the fact that most of these experts were male specialists in their 30s, 40s or 50s holding a master's or PhD degree in space science or related fields (e.g., aerospace, astrophysics, and aeronautical engineering).

6.2.1.2. Respondents' profile

The profile of the delegates working for space-related state entities in mainland China was used as a basis to search for a relevant target group for the survey. The websites of the four entities[28], with which the delegates were affiliated, contained detailed information about staff, including name, gender, position, work address, email account, phone number, educational trajectory, academic achievement, professional experience, and field of expertise. (Yet, the website did not contain the contact information of the delegates.) Through cross-checking the information with that on these delegates, I selected and targeted employees holding a MSc or a PhD in a space-related discipline and working as senior engineers/researchers, specialists, or heads of sections, divisions or departments in these entities. This ensured that their profile was comparable to that of the delegates. Consequently, those who were selected formed the target population, and their contact information was saved in a spreadsheet for the purpose of distributing the questionnaire.

The target population consisted of 821 mainland residents (10% female and 90% male), aged between 24 and 60 years (almost all over 30 and many over 40 years old), specialised in space or space-related sectors. About half of them worked in academia as professors or senior lecturers/researchers, and the other half worked in industries as specialists or senior engineers.

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[28] China National Space Administration, China Manned Space Agency, China Beidou Satellite Navigation System Administrative Office, and Beijing University of Aeronautics and Astronautics (also known as 'Beihang University').

Only a few (3%) of them had a master's degree as the highest level of education, and the rest held a PhD degree or post-doctorate in space science or related disciplines.

6.2.2. Questionnaire design

6.2.2.1. Structure

The questionnaire developed for this study consisted of six parts. Part 1 was the introduction; it welcomed the respondents, explained the notion of SI, and described the survey objectives and structure. Parts 2 to 5 formed the main body, including the blind test and 14 question items. Part 6 was the end, where the respondents were thanked for their participation.

The 14 questions were formulated to investigate the respondents' experiences with the SI service that they had received, expectations of SI quality, and preferences regarding the interpretations compared in the corpus-based study. They were grouped into different parts based on the topics (see Table 6.1).

Table 6.1. Survey questions overview

Part	Question	Subject
	1-2	Experience of attending international conferences with SI into Chinese
	3	Experience of attending UN conferences with SI into Chinese
2	4-5	Ways of using the SI service
	6	Importance of quality criteria in SI
	7-8	Irritating factors in listening to SI
3	9	Preferences regarding SI with and without text
	10	Follow-up comments
4	11	Preferences regarding SI with and without text
	12	Follow-up comments
5	13-14	Personal details

Specifically, Part 2 included eight questions. The first question (Question 1 or 'Q1') asked whether the respondents were experienced in listening to SI into Chinese at international conferences. If the answer was yes, there would be four follow-up questions (Q2-5) on whether any of these conferences were held by the UN and how and why the respondents listened to SI into Chinese. The next question (Q6) asked the respondents to rate the importance of ten quality criteria, namely completeness, logical cohesion, pleasant voice, correct grammar, correct terminology, fluency of delivery, sense consistency with the original, steady pace, appropriate Chinese usage, and lively intonation. The first seven criteria were adopted from Kurz (1993)

(see Subsection 1.3.1). The rest were added for the following reasons: Firstly, one of the compared interpretations was articulated at a more uneven rate than the other (see Subsection 6.2.3.2); thus, knowing whether steady pace was important for respondents might help understand if it played a role in their preferences regarding the interpretations. Second, intonation and natural Chinese language use were two of the features regarding which the respondents were asked to indicate their preferences (see below); thus, knowing whether lively intonation and appropriate Chinese usage were important for them would allow comparison between their expectations and preferences. Lastly, this study explored SI into Mandarin Chinese, which is a tonal language and differs from Spanish, the target language that Collados Aís (1998) focused on. Hence, the comparison between the respondents' expectations and preferences concerning intonation could provide insights into whether intonation in Mandarin Chinese as a tonal language matters in users' perceptions. The last two questions (Q7-8) asked whether the respondents found SI irritating and if yes, what they found irritating about it.

Part 3 was designed exclusively for the test and included two questions on the respondents' preferences regarding the interpretations, or more precisely, regarding the respective extracts (Extracts 1 and 3; see Subsection 6.2.3.1). The first question (Q9) asked the respondents to give preferences, if any, in terms of fluency, intonation, natural Chinese language use, and engaging style of expression, all of which were form- and delivery-related features. This was for testing the hypothesis that users prefer the output in SI to that in SI with text with regard to form- and delivery-related features. This question also asked about the respondents' preferences concerning voice and overall impression. The latter was to explore whether there was a correlation between the respondents' preferences in terms of overall impression and the form- and delivery-related features. The second question (Q10) sought respondents' comments on the extracts.

Part 4 was a replica of Part 3 that contained two questions (Q11-12) on another two extracts of the interpretations (Extracts 2 and 4; see Subsection 6.2.3.1).

Part 5 included two questions (Q13-14) on the respondents' age and gender. These were for detecting if there was a relationship between these factors and the responses and if the respondents' age and gender distribution corresponded to that of the Chinese delegates and target population.

6.2.2.2. Format

To minimise the effect of order bias, the extracts were not numbered in the questionnaire. For the blind test, they did not contain any information about the real context (e.g., the date, venue, speaker, and interpreting mode) and were given fictitious names of countries to create a simulated experience of listening to SI in a UN conference (see Table 6.2).

Table 6.2. Fictitious names of the extracts

Extract	Name
1	'尼莫国' (Nimo State)
2	'科文国' (Kovin State)
3	'图库斯坦' (Tukustan)
4	'圣西尔' (San Shier)

The questions were constructed to obtain best possible responses in one (or an integrated combination) of the formats below:

- Open-ended questions (e.g., used for Q10);
- Questions with numbers as answers (e.g., used for Q13);
- Single-choice questions: respondents select an answer from a list of predefined options (e.g., used for Q1);
- Rating scale questions: respondents specify their preferences on a scale from a range of predefined options (e.g., used for Q11 with an eleven-point bipolar scale with 1-5 at one end representing 'Nimo State is better', 1-5 at the other end representing 'Tukustan is better', and 0 in the middle corresponding to 'both are equal'; see Figure 6.1) [29].

*Please drag the blue sliders to rate the interpretations you have just heard.

	Nimo State is better	Both are equal	Tukustan is better
Overall impression		●	
Fluency		●	
Intonation		●	
Natural Chinese language use		●	
Engaging style of expression		●	
Voice		●	
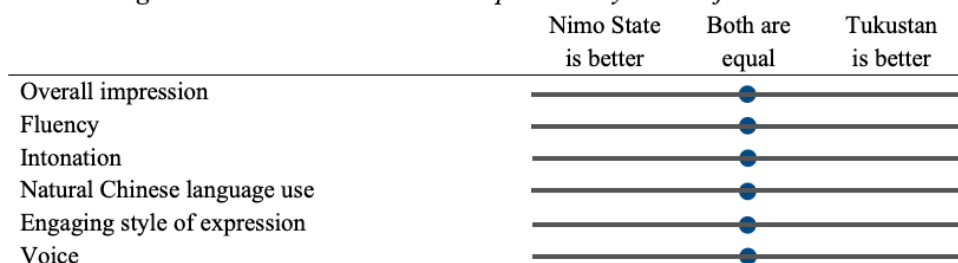
Figure 6.1. Example of rating scale questions in the questionnaire

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[29] In this question, the numerical values were hidden from respondents, who answered by dragging a slider along the scale. The farther from the centre the slider, the stronger their preferences.

6.2.2.3. Sequence

To minimise response bias, the 6 parts and 14 questions were not numbered in the questionnaire, and their sequence was partially randomised. As shown in Figure 6.2, Part 2 was presented right after Part 1. This was to reduce the chance that the respondents answered this part, especially Q4-8, after listening to the extracts, which might affect their responses.[30] Also, the questions in Part 2 were set to appear from 1 to 8 in a logical order. Parts 3-4 were presented randomly afterwards, and so were the extracts in each. This was because the two parts involved the same questions; had randomisation not been applied, undesired sequencing effects could not be ruled out. For instance, the respondents might give answers to the questions in Part 4 that were affected by those to the questions in Part 3 (see Wolf 2008). Following this was Part 5, and the questions there were set to appear randomly. This part was placed at the end of the main body of the questionnaire so that even if the respondents skipped these items due to concerns about exposing their personal identities, they would have already answered the questions in Parts 2-4 (see Dillman 2008).
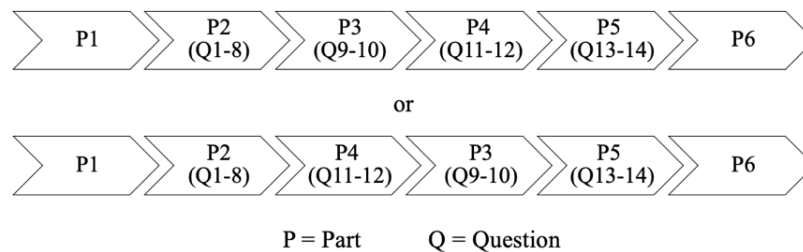
Figure 6.2. Sequence arrangement

6.2.2.4. Language

As the target population was from mainland China and could be assumed to speak Chinese as their first language or mother tongue, the questionnaire was written in Chinese. To ensure comprehensibility, the notion of SI, mentioned in Part 1, was explained in simple words with a picture of a simultaneous conference interpreter's working environment (see Figure 6.3).

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[30] This possibility was not fully ruled out for technical reasons. Otherwise, the respondents could not move backwards or forwards through the questionnaire before submission, and neither could they review or change previous answers when needed.

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SI: an interpreter in a booth listens to a speech through headphones and simultaneously speaks the corresponding interpretation into a microphone connected to receivers in conference rooms (see the picture).

Figure 6.3. Explanation of SI in the questionnaire[31]

6.2.3. Stimulus material

6.2.3.1. Selection

The initial idea regarding stimulus material was to use the full recording of the interpretations compared in the corpus-based study. However, since these interpretations each lasted over 6 minutes, which might tire and demotivate the respondents, it was decided to use extracts rather than the entire interpretations.

For the blind test, two main criteria were considered in choosing the extracts: First, the extracts should have the same or nearly the same duration. Secondly, they should not include factors that might significantly affect listening perception (e.g., loud background noise), sensitive information that might make responses biased (e.g., races, religious beliefs, political views, and names of countries), or non-corresponding renditions that substantially or completely distorted the intended meaning of the original and confused the respondents.

The selection of the extracts was based on the annotations made when analysing the interpretations (SI and SIT; see Chapter 5). Four extracts (1, 2, 3 and 4) from the middle of the speeches that met the selection criteria were chosen. As shown in Figure 6.4, they consisted of

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[31] Photo credit: Congress Rental Singapore, retrieved on 20 November 2018 from <https://www.congressrental.asia/complete-solutions.html>.

two SI extracts and two SIT extracts and were grouped into two pairs (I and II) according to their duration, namely one minute or half a minute.
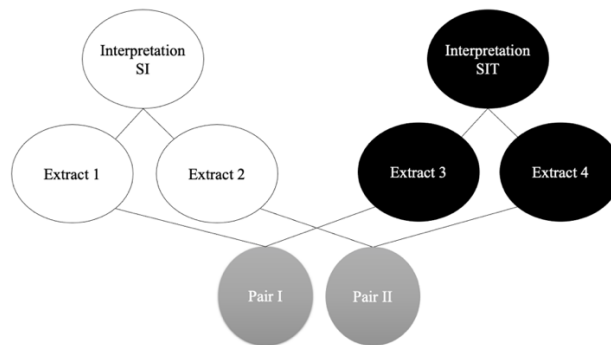
Figure 6.4. Selection of extracts

6.2.3.2. Features

The SI extract and SIT extract in Pair I lasted 56 and 61 seconds, respectively. The duration of the SI extract and SIT extract in Pair II was 25 and 27 seconds, respectively.

As far as content was concerned, the four extracts did not contain technically difficult information. In Pair I, the SI extract discussed what was needed to secure the benefits of space services and applications and why; the SIT extract dealt with examples of space debris problems that threatened the long-term use of outer space. In Pair II, the SI extract focused on the call for new guidelines for the long-term sustainability of outer space activities; the SIT extract described the need for a systematic report on trends and developments relating to space security.

In Pair I, the SI extract had one major expanded rendition, three major substituted renditions, and two reduced renditions, one minor and one major; the SIT extract had no expanded renditions but three substituted renditions, one minor and two major, and six reduced renditions, one minor, one major and four critical. Despite small differences in minor and/or major non-correspondence, these extracts had a similar number of expanded and substituted renditions. The difference between them in the number of reduced renditions was because the critical type was not found in the SI extract but occurred in the SIT extract. The critical reduced renditions in the SIT extract were related to the successive omission of original segments (4 in total, constituting two sentences: one complex and one compound, which were additional comments

on space debris problems described in the previous segment). Yet these non-corresponding renditions, unless compared to the original, could hardly be detected by listeners or affect their comprehension. In Pair II, the SI extract had no substituted rendition but a minor reduced rendition and three expanded renditions, two minor and one major; the SIT extract had no expanded rendition but a major substituted rendition and a minor reduced rendition. Although expanded renditions were observed only in the SI extract, most of them were minor. These extracts had a similar number of substituted renditions and the same number of reduced renditions (see Table 6.3).

Table 6.3. Content-related features of the extracts (total number of cases)

Pair	I		II	
Extract	SI (1)	SIT (3)	SI (2)	SIT (4)
Expanded rendition	1	0	3	0
Substituted rendition	3	3	0	1
Reduced rendition	2	6	1	1

Overall, the four extracts had very few minor and/or major non-corresponding renditions distorting the original meaning and did not contain any critical non-corresponding renditions that would confuse the respondents. Although differences existed in reduced renditions between the extracts in Pair I, and in expanded renditions between those in Pair II, these were too small to be perceived by the respondents without knowledge of the original speeches. In comparison, the differences between the extracts in the pairs concerning form and delivery-related features were easier to perceive by the respondents speaking the target language, as explained in more detail below.

Regarding form, the SIT extract in Pair I contained an inaccurate pronunciation and an unusual syntactic construction, whereas these were not found in the SI extract. The SIT extract also had two inadequate lexical choices while the SI extract had only one. In Pair II, there were no inappropriately formed renditions in the SI extract, but the SIT extract had an inadequate lexical choice and two occurrences of unusual syntax (see Table 6.4).

Table 6.4. Form-related features of the extracts (total number of cases)

Pair	I		II	
Extract	SI (1)	SIT (3)	SI (2)	SIT (4)
Inaccurate pronunciation	0	1	0	0
Unusual syntax	0	1	0	2
Inadequate lexical choice	1	2	0	1

Overall, the SIT extract in both pairs had three more inappropriately formed renditions than the respective SI extract. The extracts in Pair I differed in pronunciation, syntax, and lexical choices, whereas those in Pair II differed only in the latter two features.

As regards delivery, the differences and similarities between the SI and SIT extracts manifested themselves in intonation, style, and fluency:

The extracts in both pairs were comparable in intonation. The pitch variation in the SIT extract in Pair I and Pair II (35 Hz and 39 Hz) was slightly higher than that in the respective SI extract (32 Hz and 38 Hz). Yet, the difference in this was smaller between the extracts in Pair II than in Pair I.

With respect to style, the frequency of utterance-final particles was used as the indicator. As explained in Subsection 5.3.2.3, utterance-final particles are the interactional discourse marker used in Chinese utterances to display the speaker's engaging and interactional style. In Pair I, utterance-final particles occurred in the extracts at the same frequency, which was 4 times per minute. Yet in Pair II, these occurred only in the SI extract at a frequency of 7 times per minute – almost twice as often as that in Pair I. That is to say, the extracts in Pair I were similar in style whereas those in Pair II were not.

In terms of fluency, there were both similarities and differences between the extracts in the pairs. In Pair I, repeats were not observed, and non-grammatical pauses occurred at a similar frequency in the extracts. Regarding the rest of the fluency-related features, their occurrence was less frequent in the SI extract than the SIT extract. In particular, long grammatical pauses, syllable lengthening, and voiced hesitation were observed only in the SIT extract; the proportion and duration of unfilled pauses in the SIT extract (26% and 12 seconds per minute) were about twice that in the SI extract (12% and 7 seconds per minute); the occurrence frequency of repairs was nearly three times as high in the SIT extract as in the SI extract (3 times per minute versus 1.1 times per minute). Further, the SI extract was articulated at a higher rate than the SIT extract (318 wpm versus 282 wpm). In Pair II, differences between the extracts were found only in long grammatical pauses, which occurred only in the SI extract. Other than this, the two extracts showed similarities: they did not contain repairs, repeats, or voiced hesitation; had a comparable articulation rate (330 wpm versus 336 wpm); and were similar in the occurrence frequency of syllable lengthening, non-grammatical pauses as well as

in the proportion, duration, and occurrence frequency of unfilled pauses. In general, the difference between the extracts in these delivery-related features was smaller in Pair II than in Pair I (see Table 6.5).

Table 6.5. Delivery-related features of the extracts

Pair	I		II	
Extract	**SI (1)**	**SIT (3)**	**SI (2)**	**SIT (4)**
Articulation rate (wpm)	318	282	330	336
Proportion of unfilled pauses (%)	12	26	15	13
Duration of unfilled pauses (seconds per minute)	7	12	9	8
Frequency of unfilled pauses (instances per minute)	15	17	12	13
Frequency of non-grammatical pauses (instances per minute)	15	14	5	4
Frequency of long grammatical pauses (instances per minute)	0	1	2.4	0
Frequency of syllable lengthening (instances per minute)	0	3	2.4	2.2
Frequency of voiced hesitation (instances per minute)	0	2	0	0
Frequency of repeats (instances per minute)	0	0	0	0
Frequency of repairs (instances per minute)	1.1	3	0	0
Frequency of utterance-final particles (instances per minute)	4	4	7	0
Pitch variation (Hz)	32	35	38	39

Overall, the extracts in both pairs showed similarities regarding content, having very few minor and/or major non-corresponding renditions that barely affected the original meaning. Regarding form, the SIT extract in the pairs had three more inappropriately formed renditions than the respective SI extract, but the extracts in Pair I revealed differences in more features when compared to those in Pair II. In terms of intonation, the SIT extract in the pairs had a slightly higher pitch variation than the respective SI extract, but the difference in this was smaller between the extracts in Pair II than in Pair I. As regards style, no differences were seen between the extracts in Pair I; yet, in Pair II, the SI extract was more engaging than the SIT extract. Regarding fluency, there were few differences between the extracts in Pair II, but in Pair I the SI extract was generally more fluent than the SIT extract. Also, the SI extracts in the pairs were articulated at a less uneven rate than the SIT extracts.

6.2.4. Questionnaire tool

The questionnaire was generated with an online survey tool. As the target population was based in mainland China, two issues were considered in selecting the tool:

1) prevalence of mobile Internet: mainlanders use the Internet often from mobile devices such as tablets and smartphones, but some survey tools are designed primarily for computers;

2) accessibility through the Great Firewall of China: many web services hosted on foreign servers are partially or completely unavailable in the mainland, and not all survey tools (e.g., GoogleForms and LimeSurvey) ensured that the questionnaire and multimedia (e.g., images and videos) in it could be accessed consistently in mainland China.

To address these issues, I created several questionnaires with embedded pictures and audio files using different online survey tools (e.g., SurveyMonkey, SoGoSurvey, and SurveyGizmo) and sent them to my contacts in mainland China. The goal was to test and identify which tool offered the best possible mobile and computer-friendly interface and allowed remote respondents to open, complete and return questionnaires on web browsers common in mainland China (e.g., Baidu, UC, and 360 browsers) without experiencing technical difficulties (e.g., frozen screens). The test showed that SurveyGizmo (now renamed Alchemer, premium version) was the optimum choice because of its user-friendliness, ease in content creation, and relatively high accessibility in mainland China.

6.2.5. Pretest

Prior to the implementation phase, a pretest was conducted where the questionnaire created with SurveyGizmo was sent to three dozen individuals (my contacts, holding at least a bachelor's degree) living in the same cities as the target population (i.e., Beijing, Chengdu, Chongqing, Hangzhou, Harbin, Hefei, Nanjing, Shanghai, Shenzhen, and Xi'an). This was to check if they could access the questionnaire smoothly, whether it was clear and easy for them to follow, and how long it took to complete.

Based on the feedback received, the content of some parts of the questionnaire was edited until it was clear and concise (see Appendix IV). Also, a mainland-based cloud server (Alibaba Cloud) was used for hosting the audio files and improving the loading speed of the website hosting the questionnaire. Moreover, an automatic diagnostic test offered by SurveyGizmo was run to benchmark the completion time of the questionnaire, which showed that it would take the respondents an estimated 7-10 minutes to answer the questions.

6.2.6. Questionnaire distribution

The questionnaire was distributed on 17 December 2018. A personalised invitation (see Appendix II) was emailed to the target population as an introduction to the questionnaire, including its aim, potential benefits, voluntary participation, the importance of participation, the anonymity of responses, the protection of confidentiality, and the estimated time and deadline for completion. The invitation also provided my contact information as well as the link and QR-code to the website hosting the questionnaire. Personalised reminders (see Appendix III) were sent by email twice in intervals of three weeks to those who did not respond. The questionnaire remained active until 13 January 2019, after there had been no response for a week.

6.2.7. Data collection and analysis

The responses were collected anonymously using Survey Gizmo and could not be associated directly or indirectly with a particular respondent. The analysis of the responses was based on an automated report generated by SurveyGizmo. In this report, the responses were tabulated into data presented as counts, percentages, minimum, maximum and mean values. Except for responses to open-ended questions, which could be traced to a unique random number (hereafter 'ID') assigned to each respondent, the individual responses were not accessible to me. Consequently, almost all the data was available only in aggregated form.

6.3. Findings

A total of 52 questionnaires were received, which means that 6% of the target population took part in this study. Twenty-five questionnaires (48%) were fully completed, and twenty-seven (52%) partially completed.

6.3.1. Respondents' demographic background

Out of the 25 respondents who indicated their gender, two (8%) were female, and the others were male. Among the 23 respondents who indicated their age, most (91%) were over 30 years

old, and over half (52%) were in their 40s or 50s. In general, the respondents were aged between 24 and 57 years, with a mean of 41 years.

6.3.2. Respondents' experience and expectations

Among the 46 respondents indicating their SI-related experience, many (70%) had not attended any international meetings with SI into Chinese, whereas 14 had. Twelve out of the 14 individuals (86%) remembered how many times in the last three years they had attended such meetings. Out of these 12 respondents, six had the experience once, three twice, and three three times; on average, they had attended such meetings twice, but none of these meetings were held by the UN.

Among the 14 respondents who had attended international meetings with SI into Chinese, two used the services all the time, ten did so selectively, and two only occasionally. According to the two respondents who used the services only occasionally, there was no need for Chinese interpretation if the speech was spoken, without any strong accent, in English because this was the language that they used for communication in science and technology (see Table 6.6).

Table 6.6. Reason for the very occasional use of SI into Chinese

ID	Response
32	'我可以直接听英语发言，只在发言非英文或发言者口音很重时听中文同传。' I can listen to English speeches directly. I listen to SI into Chinese only when a speech is spoken in another language, not English, or with a strong accent.
47	'因为英语是科技交流的工作语言。' The reason is that English is the working language for communication in science and technology.

Out of the 14 respondents who had attended international meetings with SI into Chinese, only one had been irritated in listening to SI. According to this respondent, he or she would become annoyed when an interpretation sounded too vague, without conveying details, and failed to correspond to the context and meaning of the speech (see Table 6.7).

Table 6.7. Irritating factors in listening to SI

ID	Response
42	'翻译的完全不是一个意思和背景，反映不出来具体情况' The interpretation is entirely non-correspondent to the original context and meaning and does not convey any detailed information.

None of the 14 respondents who indicated their expectations of SI services considered lively intonation, pleasant voice or steady pace 'very important'. On the other hand, correct terminology was chosen by 10 respondents (71%) as a 'very important' criterion, followed by sense consistency by seven respondents (50%), completeness by six respondents (43%), and logical cohesion by five respondents (36%). In terms of criteria considered 'important', appropriate Chinese usage was selected by 11 respondents (79%), followed by fluency of delivery, logical cohesion, completeness, and steady pace all chosen by 8 respondents (57%). As for 'less important' criteria, half of the respondents chose lively intonation and steady pace, and many (71%) selected pleasant voice. No criterion was considered 'unimportant' except for lively intonation and pleasant voice (see Figure 6.5).
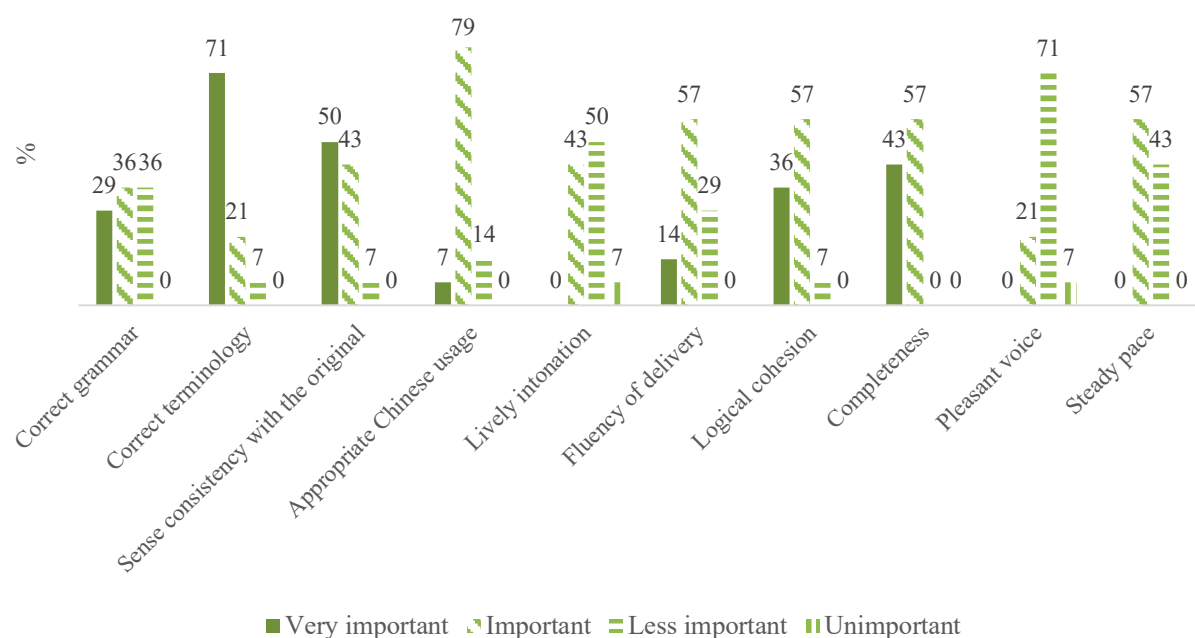
Figure 6.5. Level of importance of SI criteria

6.3.3. Respondents' perceptions

As far as the extracts in Pair I were concerned, 27-30 respondents (mean: 29) indicated their preferences regarding fluency, intonation, natural Chinese language use, and engaging style of expression. Most of the respondents (71%) preferred the SI extract in regard to overall impression. More than half – up to 73% – of them favoured the SI extract over the SIT extract, while only a few (10-24%) preferred the SIT extract or regarded both extracts as equal. In particular, over two thirds preferred the SI extract in terms of fluency and engaging style of

expression. Concerning voice, 41% of the respondents considered the extracts the same, and this percentage was higher than that of the respondents with a preference (see Table 6.8).

Table 6.8. Preference between the extracts in Pair I

	SI (1)	No preference	SIT (3)	Number of responses
Overall impression	71%	13%	16%	30
Fluency	73%	10%	17%	30
Intonation	59%	19%	22%	28
Natural Chinese language use	55%	21%	24%	29
Engaging style of expression	67%	17%	17%	30
Voice	37%	41%	22%	27

As shown in Table 6.9, one of the six respondents who commented on the extracts in Pair I considered the usage of technical terms inadequate but did not clarify in which extract this occurred. Another respondent highlighted some improper lexical choices (in the SI extract). Some considered both extracts good and comprehensible; some found it hard to compare as the extracts were not the same level of difficulty; some thought neither fluent enough, and yet still preferred the SI extract (Extract 1, 'Nimo State').

Table 6.9. Comment on the extracts in Pair I

ID	Response
18	'对中文中专业术语的了解和运用很不充分。' The comprehension and use of Chinese jargon are far from being adequate.
19	'外空—外太空 家庭作业？！' Outer space – outer space, homework?!
36	'难度不一样，不太好比较。' The difficulty level is different; it is not easy to compare.
37	'都不够流畅，当然尼莫国更好一些。同传切忌卡壳！' Neither is fluent enough, but certainly 'Nimo State' is better. SI delivery should not be choppy!
45	'其实都挺好的，能明白具体意思。' Both are good. I can understand the specific meaning.
55	'第二段对空间技术似乎稍显生疏一些。' The interpreter seems less familiar with space technology in the second extract.

As regards the extracts in Pair II, 29-40 respondents (mean: 36) indicated their preferences. Specifically, 42% of the respondents preferred the SI extract whereas 29% preferred the SIT extract or considered both extracts the same concerning overall impression. About a third preferred the SI extract, a third preferred the SIT extract, and a third regarded both extracts as equal concerning Chinese language use. In terms of intonation, the percentage of respondents without a preference exceeded that with a preference, but the SI extract was preferred by more respondents in comparison with the SIT extract. With respect to fluency and engaging style of expression, about half of the respondents preferred the SI extract, and only a third or fewer

preferred the SIT extract or considered both extracts the same. With regard to voice, over half of the respondents considered the extracts the same (see Table 6.10).

Table 6.10. Preference between the extracts in Pair II

	SI (2)	No preference	SIT (4)	Number of responses
Overall impression	42%	29%	29%	38
Fluency	53%	33%	15%	40
Intonation	36%	42%	21%	33
Natural Chinese language use	32%	35%	32%	34
Engaging style of expression	44%	33%	23%	39
Voice	39%	52%	10%	29

Among the seven respondents commenting on the extracts in Pair II, one preferred the SI extract regarding speed, one who mentioned the difficulty level of the extracts in Pair I claimed that some interpreted words were not the Chinese equivalents, without clarifying in which extract these occurred. Some respondents thought that the extracts both expressed the correct meaning of the original; some found it hard to compare due to differences in content and focus between the extracts; some thought both good and understandable, which was the same as what he or she commented on the extracts in Pair I. Concerning the language used, one respondent considered the extracts neither idiomatic nor communicative (see Table 6.11).

Table 6.11. Comment on the extracts in Pair II

ID	Response
17	'他们翻译的是不同的原始内容，强调的方面不一样，其实很难比较。我觉得都很不错。' They interpret different content with different emphases. It is hard to compare. I think both are good.
21	'科尔文国语速更好。' 'Kovin State' has a better delivery speed.
36	'有些词和中文对应不好。' Some lexical items are not Chinese equivalents.
45	'都挺好，能明白。' Both are good. I can understand.
47	'两段同传口译基本正确。' The two simultaneous interpretations are basically correct.
48	'语言的交流感都比较弱，也不太符合中文的思维习惯。' The communicative sense in the language of both extracts is weak; the language was not used according to (indigenous) Chinese thinking.
68	'听不到声音。' (I) cannot hear the sound.

In what follows, details will be provided on the respondents' preferences.

6.3.3.1. Overall impression

The majority of the respondents (57%) who considered the SI extract better than the SIT extract in Pair I had a slight preference (as indicated by the values of 1 and 2), and only one third of them expressed a strong preference (as indicated by the values of 4 and 5). Among those who favoured the SIT extract over the SI extract, only one had a strong preference (see Figure 6.6).
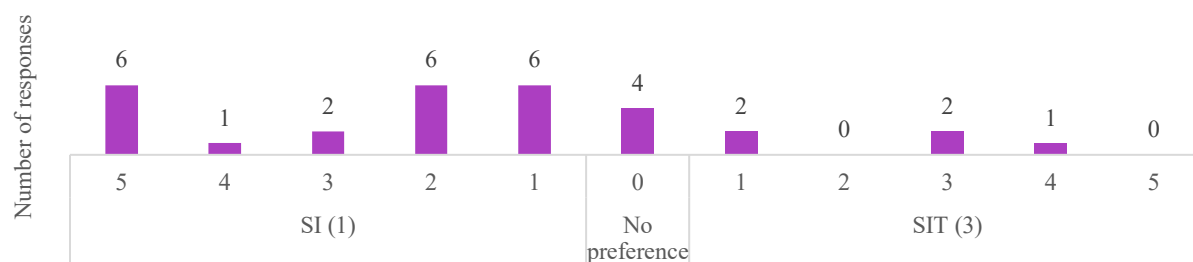
Figure 6.6. Preference between the extracts in Pair I – Overall impression

Over half of the respondents (56%) who considered the SI extract better than the SIT extract in Pair II had a slight preference, and about a third (31%) expressed a strong preference. Most of those (73%) who favoured the SIT extract over the SI extract did not show a strong preference (see Figure 6.7).
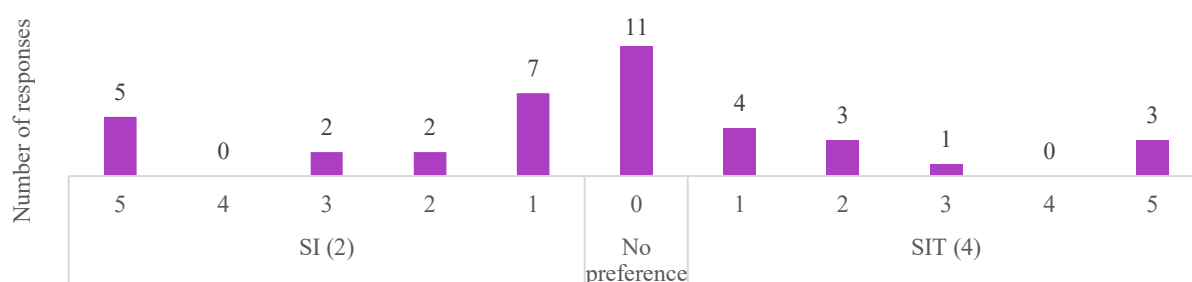
Figure 6.7. Preference between the extracts in Pair II – Overall impression

6.3.3.2. Fluency

More than half of the respondents (55%) favouring the SI extract over the SIT extract in Pair I had a slight preference, and only a third (32%) showed a strong preference. None of those who favoured the SIT extract over the SI extract expressed a strong preference (see Figure 6.8).

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Figure 6.8. Preference between the extracts in Pair I – Fluency

Among those who considered the SI extract 2 better than the SIT extract in Pair II, nearly a third (29%) showed a strong preference, whereas many (62%) had a slight preference. Most of the respondents (80%) who regarded the SIT extract as better than the SI extract expressed a slight preference (see Figure 6.9).
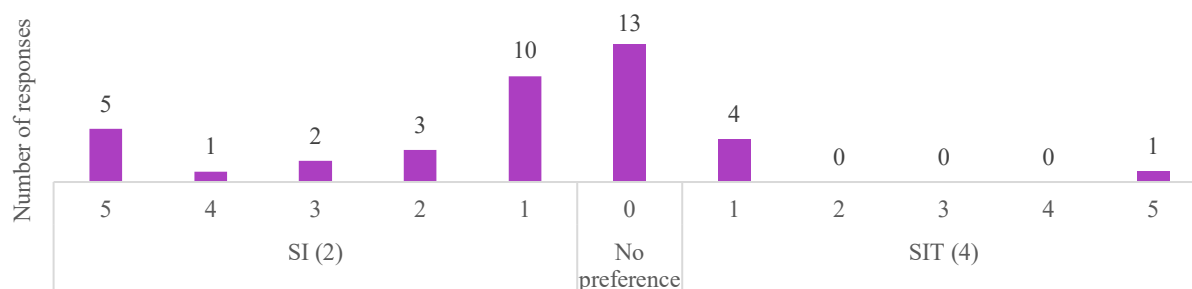
Figure 6.9. Preference between the extracts in Pair II – Fluency

6.3.3.3. Intonation

Of the respondents who viewed the SI extract as better than the SIT extract in Pair I, the majority (56%) had a slight preference and about a third (31%) showed a strong preference. None of those who favoured the SIT extract over the SI extract expressed a strong preference (see Figure 6.10).
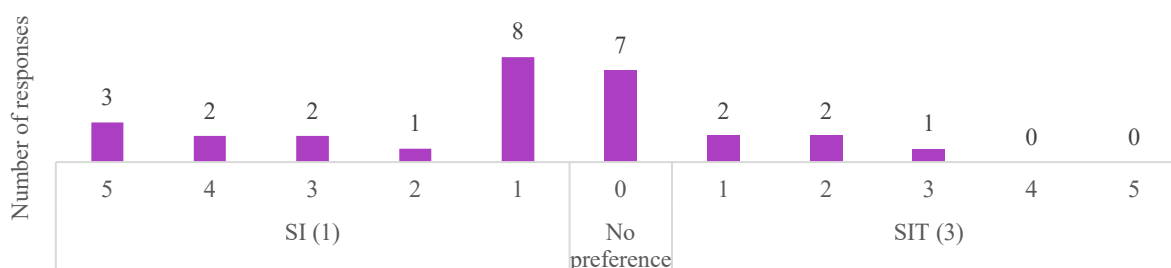
Figure 6.10. Preference between the extracts in Pair I – Intonation

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Among those who favoured the SI extract over the SIT extract in Pair II, most (75%) had a slight preference and only one fourth showed a strong preference. None of the respondents considering the SIT extract better than the SI extract expressed a strong preference (see Figure 6.11).
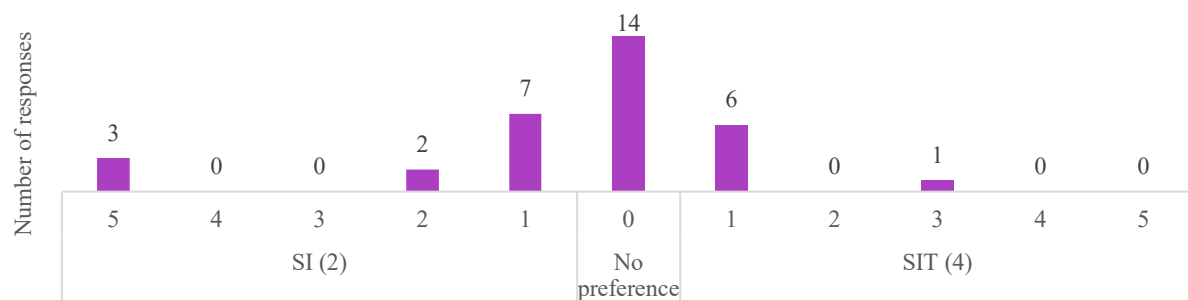
Figure 6.11. Preference between the extracts in Pair II – Intonation

6.3.3.4. Engaging style of expression

Many of those (65%) who considered the SI extract better than the SIT extract in Pair I showed a slight preference, and only one fourth expressed a strong preference. None of the respondents favouring the SIT extract over the SI extract had a strong preference (see Figure 6.12).
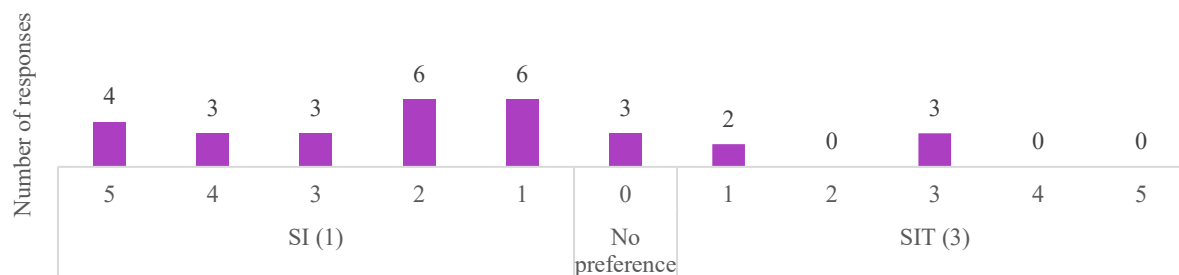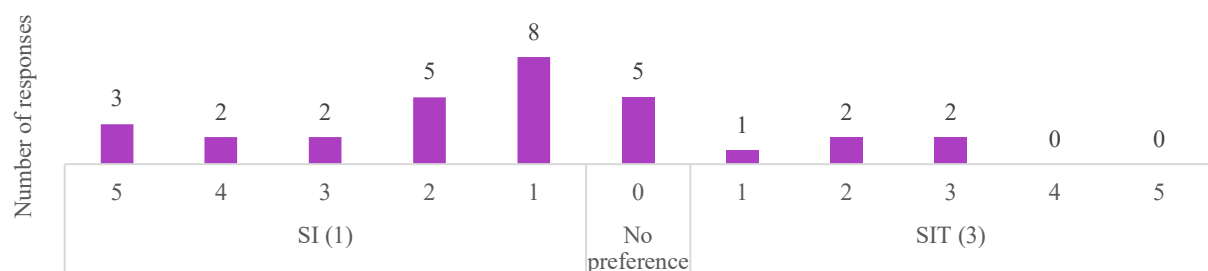

Figure 6.12. Preference between the extracts in Pair I – Engaging style of expression

Most of the respondents (76%) considering the SI extract better than the SIT extract in Pair II showed a slight preference, and only a few (18%) had a strong preference. A third of those who favoured the SIT extract over the SI extract had a strong preference, whereas the others did not (see Figure 6.13).
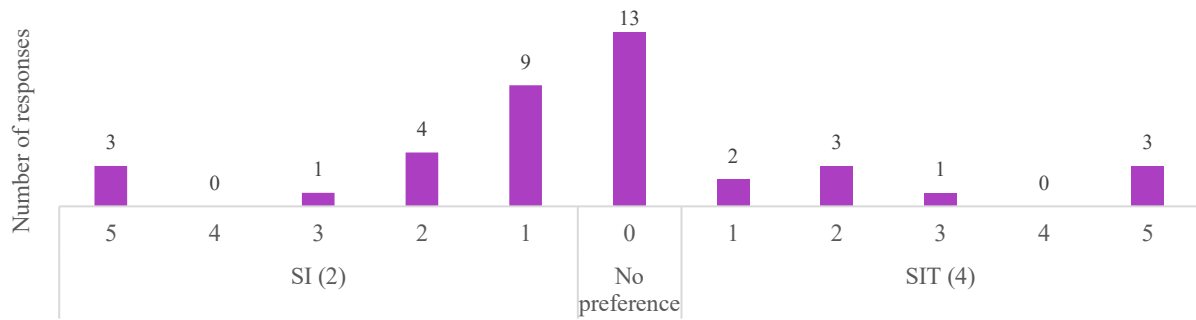
Figure 6.13. Preference between the extracts in Pair II – Engaging style of expression

6.3.3.5. Natural Chinese language use

Many of the respondents (69%) considering the SI extract better than the SIT extract in Pair I had a slight preference; nearly a third (31%) expressed a strong preference. None of those who considered the SIT extract better than the SI extract had a strong preference (see Figure 6.14).
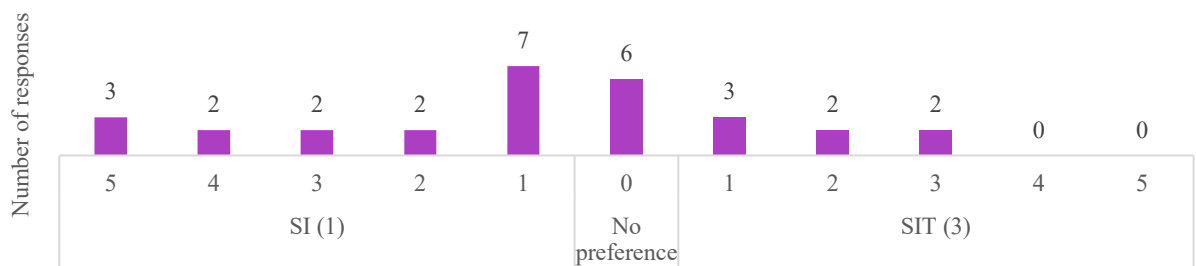
Figure 6.14. Preference between the extracts in Pair I – Natural Chinese language use

A quarter of the respondents (27%) who favoured the SI extract over the SIT extract in Pair II expressed a strong preference, while the rest did not. Only one of those who considered the SIT extract better than the SI extract had a strong preference (see Figure 6.15).
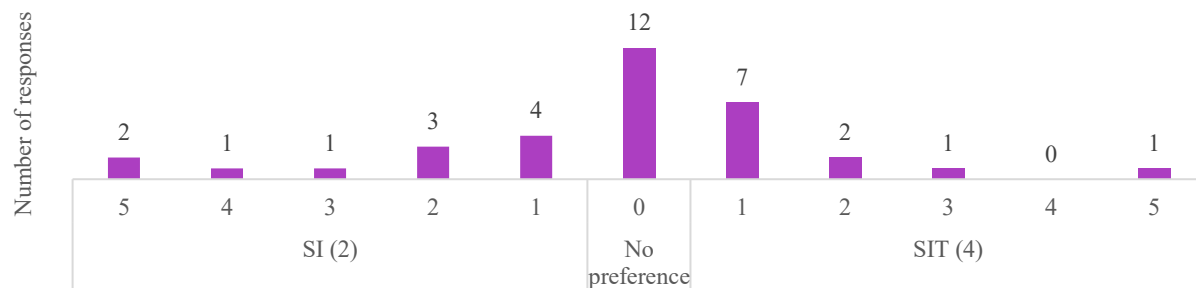
Figure 6.15. Preference between the extracts in Pair II – Natural Chinese language use

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6.3.3.6. Voice

Nearly half of the respondents (41%) showed no preference for either extract in Pair I. Most respondents had a slight preference for the SI extract or the SIT extract. About a third of those (30%) who considered the SI extract better than the SIT extract expressed a strong preference. Those who regarded the SIT extract as better than the SI extract did not have a strong preference (see Figure 6.16).
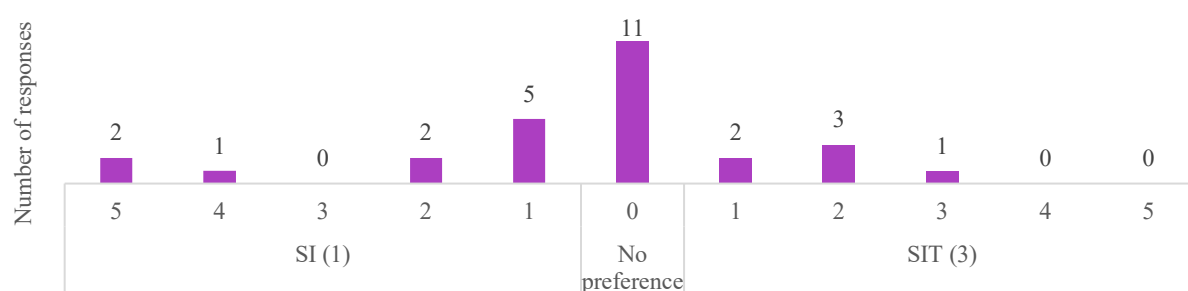
Figure 6.16. Preference between the extracts in Pair I – Voice

Over half of the respondents (52%) had no preference for either extract in Pair II. None of the respondents expressed a strong preference, but quite a few had a slight preference for the SI extract (see Figure 6.17).
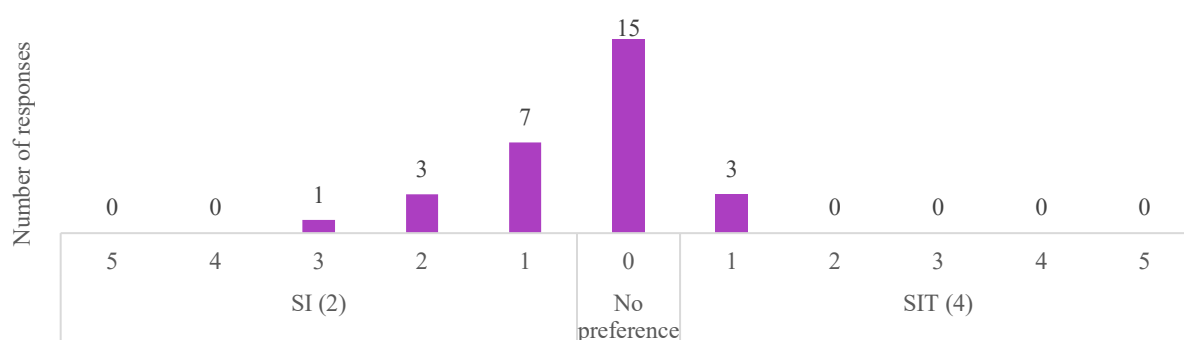
Figure 6.17. Preference between the extracts in Pair II – Voice

Overall, the survey findings show that the SI extract in both pairs was favoured by the respondents more than the SIT extract concerning overall impression and almost all the features (except for natural Chinese language use regarding the extracts in Pair II). With regard to voice, the respondents without a preference outnumbered those with a preference in both pairs. More specifically, except when it came to the extracts in Pair II regarding overall impression and

engaging style of expression, very few of the respondents who favoured the SIT extract over the SI extract in both pairs showed a strong preference. Only one third or fewer of the respondents favouring the SI extract over the SIT extract in both pairs had a strong preference, while most did not. Furthermore, the preference for the SI extract in Pair I was higher than that in Pair II regarding not only overall impression but also for all other features.

6.4. Discussion

Users – the ultimate recipients of interpreting services – play an important role in judging the quality of interpretations. Ever since Kurz (1989) introduced research focusing exclusively on the user perspective, there has been considerable interest among researchers in surveying users in real conferences (e.g., Diriker 2011; Gile 1990b; Mack and Cattaruzza 1995; Moser 1995; Vuorikoski 1995) or simulated events (e.g., García Becerra 2015b; Holub 2010; Pradas Macías 2003, 2006; Rennert 2010) with the aim of understanding their expectations or their perceptions of actual SI services. Nonetheless, little research to date has investigated both users' expectations and perceptions; nor has any research explored the quality of SI with text from the user perspective, despite the prevalence of this interpreting mode and the significance of users' judgment.

The study presented here provides an evidence-based account of how users perceive the quality of SI with text. It set out to explore 1) whether users have preferences regarding simultaneous interpretations performed with and without text and, if so, what their preferences are in terms of features relating to form and delivery, and 2) whether their preferences correspond to their expectations of SI services. It was hypothesised that users prefer the output in SI without text to that in SI with text concerning both form- and delivery-related features. To answer the questions and test the hypothesis, this study elicited responses from a group approximating the Chinese delegates at the observed 59th COPUOS session mainly on their perceptions of the interpretations compared in the corpus-based study. Most importantly, it was designed as a survey-based experiment – with the use of text in SI as the independent variable – asking the respondents to indicate their preferences (if any) regarding the interpretations in terms of four form- and delivery-related features, namely fluency, intonation, natural Chinese language use, and engaging style of expression, which served as sub-variables. This would help understand whether there exists a relationship between these sub-variables and users' perceptions. In

addition, this study elicited the respondents' preferences concerning voice to check if they listened attentively and found the voice in the interpretations the same. This study has drawn on Kurz's research (1993) surveying different user groups about their expectations of SI services in order to elicit the respondents' opinions as to how important SI criteria are in judging the quality of interpretations. These criteria include logical cohesion, pleasant voice, correct grammar, correct terminology, fluency of delivery, and sense consistency with the original – all adopted from Kurz (1993) – as well as steady pace, lively intonation, and appropriate Chinese usage. Drawing on Collados Aís's (1998) experiment, which revealed that users' perceptions of overall interpreting quality were heavily reliant on the nonverbal vocal features of interpretations, this study also explored the respondents' overall impression. Through the investigation of the respondents' attitudes towards the SI criteria and actual reactions to the interpretations, this study provided the first findings on users' perceptions of quality in SI with text, including whether users' actual judgments correspond to their declared expectations and to measured features of quality of a simultaneous interpretation.

6.4.1. Impact of SI with text on output speed

Before discussing users' perceptions of the quality in SI with text, it is worthwhile to highlight an observation on the stimulus material that adds to the corpus-based study regarding the impact of SI with text on interpreters' output. As found in the corpus-based study, working with text during SI could yield more disfluencies (e.g., longer and more frequent unfilled pauses) in interpretations than working without text. There was a much smaller difference in articulation rate between the SI extracts than between the SIT extracts (12 wpm versus 54 wpm; see Table 6.5), which is to say that the SIT extracts were delivered at a more uneven speed. This observation lends further support to the findings of the corpus-based study, implying a negative impact of SI with text on interpreters' delivery. It also concurs with the view expressed in the relevant literature (e.g., Gile 2009) that the quality of interpreters' production may decrease with the use of text in SI. More importantly, this observation suggests that interpreters' speed is more likely to be subject to considerable variation in SI with text than in SI without text.

6.4.2. Users' expectations

Every user group, depending on its background and experiences, has specific needs and requirements for SI services that cannot be generalised. In the literature, it is standard when exploring users' expectations of SI services to survey a specific target population, such as academics (Diriker 2011) or medical doctors (Kurz 1989). Among the existing studies on this topic, the one reported by Kurz (1993) stands out as most relevant to this study because she also surveyed a group of engineers who, broadly speaking, came from a similar professional background to the group targeted by this study. Exploring the engineers' expectations of various SI quality criteria at a real conference, Kurz (1993) found that sense consistency, correct terminology, and logical cohesion were what they considered most important, followed by fluency of delivery and completeness, whereas pleasant voice, native accent, and correct grammar were regarded as least important. She also found that sense consistency ranked first among the three 'most important' criteria that the engineers looked for in SI services.

The findings of the present study show that the respondents attributed the highest level of importance to terminology, sense consistency, completeness, and logical cohesion, followed by appropriate Chinese usage, fluency of delivery, correct grammar, and steady pace, whereas intonation and pleasant voice were attributed the lowest level of importance. These findings are similar to those of Kurz (1993), suggesting that terminology, sense consistency, and logical cohesion are among the criteria that users value most when judging the quality of SI services, whereas intonation and pleasant voice are among the criteria that they value least. On the other hand, differing from those reported by Kurz (1993), the present findings show that terminology was rated by the respondents as the most important criterion. Completeness, too, was one of the most valued criteria and rated higher than fluency of delivery. The difference between the studies can be attributed to many factors, such as the respondents' preferred discourse style of the target language and experiences in the use of SI services. Nonetheless, one of the most likely factors is that Kurz's (1993) study was conducted on-site at a simultaneously interpreted conference, where the engineers' responses may have been influenced by the interpreting service received, while this study was conducted online, independently of and without reference to other interpretations (because it elicited the respondents' expectations before they listened to the interpretations). Another possible factor is the difference in the groups surveyed by the two studies. Even though both groups consisted of experts from the engineering sector,

they speak different languages, work in different specific fields, and have different priorities, needs and preferred styles in their use of SI services, which might have contributed to the different findings obtained.

6.4.3. Users' perceptions

Speech elements such as disfluent utterances, monotonous voice, and unnatural language use in interpreters' output can have an adverse impact on users' perceptions of the SI service received. As observed in previous experimental studies (e.g., Collados Aís 1998; García Becerra 2015b; Holub 2010; Pradas Macías 2003, 2006; Rennert 2010), users' perceptions of SI quality can be strongly dependent on the nonverbal features of interpretations (e.g., fluency and intonation), regardless of whether the interpreter correctly conveys the content of the original speech. Based on this and on the findings of the corpus-based study, which showed a negative impact of SI with text on the form- and delivery-related features of interpretations, it was hypothesised in this study that users would prefer the output in SI to that in SI with text.

To test the hypothesis, this study explored the respondents' perceptions of the quality in SI with text concerning form- and delivery-related features. Specifically, it used a blind test eliciting the respondents' preferences regarding extracts of interpretations performed with and without text in terms of fluency, intonation, natural Chinese language use, and engaging style of expression. It also elicited the respondents' preferences concerning overall impression and voice. The purposes were to identify whether their perceived overall quality of the extracts correlated with their perceptions of the form and delivery-related features of the extracts and whether they were attentive listeners, as indicated by their perceptions of the same interpreter's voice.

The findings of this study show that, in terms of voice, about half of the respondents considered the extracts in both pairs the same and that most of those who favoured one extract over the other (75% in Pair I and 93% in Pair II) expressed only a slight preference. These findings thus provide evidence confirming that the respondents generally paid close attention to what they heard. Except for voice, this study found that the majority of the respondents (58-90%) expressed a preference regarding the extracts. These findings answer affirmatively the first

research question posed in Section 6.1: users do have preferences regarding simultaneous interpretations performed with and without text.

In detail, this study found that the SI extract in Pair I received more preferences from the respondents than the SIT extract concerning intonation, fluency, natural Chinese language use, and engaging style of expression. The same applies to the extracts in Pair II, except with respect to natural Chinese language use, regarding which both extracts were preferred by the same percentage of respondents (32%). Moreover, there was a clear difference in the percentage of respondents who preferred the SIT extract and the SI extract in the pairs (15-56%; see Table 6.8 and Table 6.10). These findings provide evidence confirming the hypothesis of this study and answer the sub-questions of the first research question on users' preferences concerning form and delivery-related features. They suggest that users prefer the output in SI to that in SI with text regarding both form and delivery-related features.

At a closer look, the findings of this study on the level of the respondents' preferences show that the SI extract in both pairs received a stronger preference than the SIT extract regarding the four features and overall impression. The underlying reasons are complex but might derive from the respondents' implicit demand for a certain degree of the interpreter's active involvement in the communication process, as put forward by Collados Aís (1998).

6.4.4. Correspondence between users' perceptions and expectations

The quality of SI as perceived by users has been a much-discussed topic ever since Collados Aís's (1996) research. Her experiment used intonation and sense consistency with the original as the independent variables to examine the impact of intonation on users' judgment of SI quality and revealed that users' judgment does not necessarily correspond to their expectations but is heavily influenced by criteria that they consider less important, such as the intonation of interpretations. Collados Aís's (1998) observation was further confirmed in subsequent experiments on other nonverbal quality criteria such as fluency (e.g., Pradas Macías 2003; Rennert 2010) and subjective factors like the users' first impression of simultaneous interpreters (e.g., García Becerra 2015b). Inspired by these studies, the study reported here approximated the method adopted by Collados Aís (1998) and explored whether users'

preferences regarding simultaneous interpretations performed with and without text corresponded to their declared expectations of SI quality.

This study found respondents' preferences for the SI extract in Pair I concerning natural Chinese language use and for that in both pairs with regard to fluency, engaging style of expression, and overall impression. These findings suggest that fluency, natural Chinese language use, and engaging style of expression may play a significant role in users' perceptions of overall interpreting quality. This corresponds to the findings showing the respondents' high expectations for appropriate Chinese usage, fluency of delivery, correct grammar, and steady pace, which indicate that users greatly value these criteria.

Moreover, the correspondence between users' preferences and their expectations of SI quality can be seen in the respondents' preferences concerning intonation. It was found that the SI extract in both pairs, when compared to the SIT extract, received more preferences in terms of intonation, even though the pitch variation of the SI extract was very similar to, and even slightly lower than, that of the SIT extract (with a minor difference of 3 Hz in Pair I and 1 Hz in Pair II). These findings indicate that users may not rely solely on interpreters' pitch variation when perceiving intonation, which will be discussed in the next subsection. They also imply that users' perceptions of intonation may be influenced by those of the criteria that they consider more important, which corresponds to the findings showing the respondents' low expectations for intonation and indicating that users do not value this criterion highly. That being said, these findings should be interpreted cautiously as the differences in pitch variation between the extracts in both pairs were not strong enough to perceive.

Taken together, all these findings answer affirmatively the second research question stated in Section 6.1: users' preferences largely correspond to their expectations of SI services. More importantly, they have two further implications. First, the extent to which intonation influences users' perceptions of overall interpreting quality may not be as large when compared to fluency, natural Chinese language usage, and engaging style of expression of the interpretation. Second, users' overall perceptions of an interpretation correlate with the criteria that they expect the interpretation to meet. That is, the less important the criterion is in their expectations, the less likely it is to influence their overall perceptions.

6.4.5. What can influence users' perceptions?

As observed in previous research (e.g., Collados Aís 1998), users' perceptions of quality may differ from the actual quality of interpreting services. Could users perceive and confirm the impact of SI with text on interpreters' output identified in the corpus-based analysis regarding form- and delivery-related features? This question drove this thesis from the corpus-based study to the survey-based experiment focusing on the user perspective. To answer this question, this study compared the analysis results of the stimulus material with the respondents' preferences, so as to identify the impact of form, style, intonation, and fluency on users' perceptions.

6.4.5.1. Form

As discussed in Subsection 6.2.3.2, the SI extract in each pair contained fewer inappropriately formed renditions than the SIT extract. Although the SIT extract had three more of these renditions than the SI extract in both pairs, the extracts in Pair I differed in more features (i.e., inaccurate pronunciation) compared to those in Pair II.

The current study found that the percentage of respondents preferring the SI extract concerning natural Chinese language use was 31% higher than that of respondents preferring the SIT extract in Pair I. This finding accords with the output analysis results, demonstrating that users may accurately perceive the quality of interpretations regarding form. On the other hand, this study found no differences in that percentage between the extracts in Pair II, which does not support the output analysis results. This inconsistency may be because these extracts differed in syntax and lexical choices, but not in pronunciation, which may have been used by the respondents as the main deciding factor for their preferences regarding form. An implication drawn from this finding is that users' perceived quality regarding form can be heavily impacted by the interpreter's pronunciation; although the degree to which this has an impact is unclear, it may be higher when compared to other form-related features, such as syntax and lexical choices.

6.4.5.2. Style

From the output analysis results, utterance-final particles were identified only in the SI extract in Pair II and occurred at the same frequency in the extracts in Pair I. That is to say, the SI extract in Pair II had a more engaging style than the SIT extract, whereas the extracts in Pair I had no differences in this respect.

The percentage of respondents preferring the SI extract concerning engaging style of expression was found to be 21% higher than that of respondents preferring the SIT extract in Pair II. This finding is consistent with the output analysis results, suggesting that users may accurately perceive the quality of interpretations regarding style. However, the current study also found a much higher percentage of respondents preferring the SI extract concerning engaging style of expression than that of respondents preferring the SIT extract in Pair I (67% versus 17%), which contradicts the output analysis results. This difference can be attributed to the fact that engaging style of expression was not defined in the questionnaire. Without knowing the definition, the respondents might not have developed preferences regarding this feature based on their perceptions of utterance-final particles alone. Rather, their perceptions might be formed by a combination of factors, such as their preferred speech style, and the interpreter's tone of voice and register.

6.4.5.3. Fluency

As discussed previously, the SI extracts in the pairs were articulated at a less uneven rate than the SIT extracts. Furthermore, few differences were observed between the extracts in Pair II, whereas in Pair I the SI extract was more fluent than the SIT extract, especially indicated by fewer and shorter unfilled pauses as well as no or less frequent repairs, voiced hesitation, syllable lengthening, and long grammatical pauses in the former than in the latter.

It was found in this study that the percentage of respondents preferring the SI extract was 56% higher than that of respondents preferring the SIT extract in Pair I. This finding is consistent with the output analysis results, indicating that users may accurately perceive the quality of interpretations regarding fluency. Yet this study also found a 38% higher percentage of respondents preferring the SI extract over the SIT extract in Pair II concerning fluency. This

finding is not in line with the output analysis results, which show similarities in almost all the fluency-related features, except for long grammatical pauses that occurred only in the SI extract in that pair. The reason for this difference is not clear. However, a potential explanation is that the similarities in the fluency-related features between those extracts made it difficult for the respondents to discriminate between them regarding fluency. As a result, the respondents' preferences regarding fluency may have been mainly based on other factors, such as engaging style of expression and overall impression. The finding has two implications: First, long grammatical pauses may not play an important role in users' perceived fluency. Second, when interpretations exhibit similar fluency-related features, users' responses when asked to rate the fluency of interpretations can be heavily impacted by other factors, such as their overall impression and/or the interpreter's style.

6.4.5.4. Intonation

As reported previously, there was a negligible difference in pitch variation between the extracts in both pairs. Despite this, the current study found that the percentage of respondents preferring the SI extract was 37% higher in Pair I and 15% higher in Pair II than that of respondents preferring the respective SIT extract. This finding contradicts the output analysis results presented at outset. The causes of this inconsistency can be related to many factors, among which are the respondents' low expectations for intonation and the negligible difference in pitch variation between the extracts in both pairs. That is, this difference was too small to allow the respondents to discriminate between the extracts concerning intonation. Consequently, their preferences regarding intonation could be driven by their overall impression. Meanwhile, due to their low expectations for intonation, the respondents' preferences regarding this feature might have been influenced by their preferences concerning the other features that they valued more, such as fluency, regarding which they showed a higher preference for the SI extract in the pairs. Furthermore, this finding does not support Collados Aís's (1998) findings, which could be related to the fact that her study involved only two independent variables, namely intonation and sense consistency, while this study included not only these but, for instance, speech fluency.

This finding suggests two points: First, when interpretations exhibit similarities in pitch variation, users' responses when asked to rate the intonation of interpretations could be

impacted by their overall impression. Second, users may not use pitch variation as the sole deciding factor of their ratings of intonation. Rather, their perceptions of intonation can be influenced by a combination of factors. Among these factors, pitch variation plays a certain role, and yet the extent to which it has an influence is unclear but may not be as great when compared to others, such as speech fluency, for which users have a higher expectation.

6.4.6. Limitations

The contribution made by this study to the understanding of quality in SI with text from the user perspective has several limitations. The first and probably most consequential is the stimulus material used in the experiment. That is, the difference in content and content-related features between the extracts might have affected the investigation of the impact of the sub-variables on the respondents' preferences. This limitation derived from the constrained choices of the experimented input materials. To alleviate this limitation, the material selected from the corpus exhibited high comparability in content and translational correspondence. That is, the extracts in both pairs focused on the same topic (i.e., long-term peaceful use of outer space), contained very few minor and/or major non-corresponding renditions distorting the original meaning, and had no critical non-corresponding renditions that affected listening comprehension.

Second, this study did not investigate to what extent different form- and delivery-related features affect users' perceptions and overall impression. For example, how does interpreters' pronunciation influence users' perceptions of form? How does the interpreter's pitch variation impact users' perceptions of intonation? How important is interpreters' use of utterance-final particles for users' perceptions of style? What features are the deciding factors for users' perceptions of fluency? Which features play a major role in users' overall impression? These questions, though of great importance to the interpretation of the present findings, are beyond the scope and intention of this thesis and thus will have to be addressed in future research.

Third, this study did not investigate the influence of the respondents' age or previous experiences with SI services on their responses, especially regarding their expectations and preferences. As explained in Subsection 6.2.7, almost all the data reported by the survey tool used in this study were aggregated, which consequently prevented an exploration of this topic.

Future research on this topic therefore should use a survey tool that allows the analysis of individual responses and could explore, for instance, whether users' previous experience plays a role in their expectations or perceptions of the quality of SI with text.

Another limitation is that the respondents' answers might not be representative of the Chinese delegates. The respondents had a professional profile similar to that of most delegates, who were experts in the field of outer space, but different from that of those working as UN diplomats. Furthermore, although the two groups (i.e., experts and respondents) came from a similar background in many ways (e.g., language, education, expertise, and affiliated fields), they had different experiences of using SI services in international conferences, especially UN conferences, and listened to the interpretations in different contexts. One might argue that this study could have surveyed Chinese delegates on-site at subsequent COPUOS sessions. However, this would not assure the validity of research, mainly given the potential influence of the SI services provided there on the delegates' responses. Therefore, future studies with the same focus or aim of investigation should either survey users before they listen to interpretations or survey a user group that approximates as nearly as possible the original audience but also has similar experience with using SI services in a similar context.

Lastly, owing to the small number of respondents and that not all respondents completed the survey, the findings of this study are not statistically significant. The relatively low response rate may be partly due to the lack of motivation, when no incentives were offered for participation, and partly due to the requirement of listening to the audio clips in the survey to be completed. These findings also could not represent the entire population of experts in the field of outer space, because this study targeted only those who worked for space-related state entities in mainland China.

Overall, despite the modest response rate, this study is the first to conduct a survey-based experiment using authentic materials to explore the quality of SI with text from the user perspective. It has provided valuable empirical evidence that enriches the existing literature on users' expectations of SI services and, most importantly, novel insights into how users perceive the quality of SI with text. The main conclusions can be summarised as follows: 1) users clearly expect an interpretation to meet the criteria of correct terminology, sense consistency and logical cohesion, whereas pleasant voice and lively intonation are not as important as these criteria; 2) users' perceptions correspond to their expectations and are more likely to be

influenced by the criteria that they value highly than by those for which they have a low expectation; 3) users may be able to judge the quality of interpretations regarding form, style, and fluency; 4) users do not use the interpreter's pitch variation as the sole deciding factor of their perceptions of intonation; 5) users tend to prefer the output in SI to that in SI with text regarding both form- and delivery-related features.

Chapter 7. General Discussion and Conclusions

This chapter offers a general discussion of the research presented in this thesis. It begins with the objectives that defined its scope and focus. Then a review is provided of the literature on the research subject as well as the methodology and findings of this research. Following that, this chapter discusses the overall limitations and implications of this research and concludes with recommendations for future work.

7.1. Research objectives

SI with text is a complex simultaneous interpreting task that has been increasingly discussed, most notably by professionals (e.g., Diur 2015; Shermet 2018), but rarely specifically or systematically studied. Ever since scholars and practitioners (e.g., Baigorri-Jalón 2004; Cammoun et al. 2009) started writing about SI with text as a distinct and prevalent practice in conference interpreting, particularly in the setting of UN meetings, there have been divergent opinions and very limited evidence regarding the impact of working with the script on SI performance (e.g., Lambert 2004; Setton and Motta 2007). And very little is known about whether this impact is positive, negative, or neutral for the overall quality of interpreters' output, or how simultaneous interpreters' output resulting from working with the script is perceived by the target audience.

The research presented in this thesis attempted to fill the gap by focusing on SI with text performed in the setting of UN conferences and exploring the environment in which SI with text often occurs, the impact of this working mode on interpreters' output, and users' perceptions of interpretations delivered in this working mode. In line with these objectives, the following research questions were formulated:

1. What is the working environment of UN simultaneous interpreters?
a) How do they perceive the speech style of UN delegates?
b) How do they experience and approach to their interpreting task, especially when scripts of read-aloud speeches are available to them?

2. Is there a difference in simultaneous interpreters' output quality when they interpret a read-aloud speech with the script available in the booth (SI with text) compared to working without the script (SI without text)?

If so, what is the impact of SI with text on interpreting quality with regard to:

- content-related features, namely accuracy and completeness?
- form-related features, such as syntax and lexical choices?
- delivery-related features, such as fluency and intonation?

3. How do users perceive the quality of SI with and without text?

a) Do users have preferences regarding simultaneous interpretations performed with and without text?

b) If yes, what are their preferences in terms of:

- form-related features such as natural target-language usage?
- delivery-related features such as fluency and intonation?

c) Do their preferences correspond to their expectations of SI services?

Previous studies (e.g., Coverlizza 2004; Lamberger-Felber 2001, 2003; Setton and Motta 2007) have suggested that using the script improves the accuracy of simultaneous interpreters' renditions but adversely affects their delivery. Moreover, it is commonly agreed by scholars (e.g., Bühler 1986; Gile 1991; Ng 1992; Viezzi 1996) that users usually lack the required linguistic skills and tend to rely heavily on superficial factors when evaluating the quality of interpretations. Based on these considerations and the findings of previous research, the following hypotheses were formulated and tested:

1. SI with text has a positive impact on the content (i.e., accuracy and completeness) of interpreters' output.
2. SI with text has a negative impact on the form and delivery (e.g., fluency and syntax) of interpreters' output.
3. Users prefer SI without text to SI with text regarding target-language form and delivery.

7.2. Research methodology and findings

To achieve the research objectives, this research adopted the multi-method design that involved a combination of research perspectives – i.e., the interpreters, the analyst and the interpretation users – and research methods, i.e., field observation, experiment, survey research, and corpus analysis. In this design three complementary and interconnected studies were conducted:

The fieldwork study explored the UN interpreting environment by observing simultaneous interpreters' workplaces as well as working practices in two UN conferences (i.e., the 59th COPUOS session, and the 6th GPDRR session) from both the interpreter and researcher perspectives, and by interviewing interpreters about their first-hand experience of interpreting at the UN, especially regarding SI with text. The approach was mainly inspired by Duflou's (2016) ethnographic study on interpreting in the EU that involved both observational fieldwork and interviews conducted from the 'practisearcher' perspective.

It was found that 1) most of the speeches were delivered in English by delegates reading from a written script, and were considered by the interpreters to be fast, dense, accented, monotonous, and complex; 2) reading the script while listening to the recited speech was the main working mode in the booth; and 3) the interpreters viewed this working mode as occurring frequently, as highly stressful, and as both advantageous and disadvantageous to their performance. These findings point to the high incidence and prevalence of read speeches and the use of SI with text in UN conferences, and demonstrate the difficulties (i.e., fast pace, monotony, accents, dense information, and complex syntax) of UN speeches perceived by interpreters as well as the interpreters' concerns about the cognitive demands of SI with text. They help answer the first main research question and sub-questions, confirm experience-based accounts (e.g., Shermet 2018), and reinforce prior research reporting typical interpreting phenomena and challenges in the UN (e.g., Baigorri-Jalón and Travieso-Rodríguez 2017; Diur 2015).

The corpus-based study analysed four dozen English read speeches and the corresponding simultaneous interpretations into Chinese delivered in one of the observed meetings (i.e., the 59th COPUOS session). The speeches were analysed mainly in terms of speed, pauses, intonation, terminology, syntactic complexity, and the legibility of the script made available to the interpreters; and the interpretations were analysed regarding 17 quality features. The

features relating to delivery (i.e., speech rate, articulation rate, pitch variation, utterance-final-particles, repeats, repairs, syllable lengthening, voiced hesitation, unfilled pauses, non-grammatical pauses, and long grammatical pauses) were measured with the help of the software tool Praat based on relevant literature (e.g., Han 2015; Lu 2005; Tissi 2000). The features relating to content (i.e., reduced, expanded and substituted renditions of minor, major and critical types) and form (i.e., inaccurate pronunciation, inadequate lexical choices, and unusual syntax) were analysed with the help of assessment models developed based on the literature (e.g., Barik 1994; Lee 2014; Romero-Fresco and Pöchhacker 2017; Wadensjö 1998). A comparison was made between the interpretations of two speeches exhibiting great similarity not only in the assessed aspects but also with regard to topic, length, and time for the interpreter's preparation. The compared interpretations were produced by the same interpreter working with and without text, and the interpreter's performance proved consistent and comparable in relation to his interpretations of other speeches in the corpus.

This study found that the analysed speeches had a high proportion of composite sentences and were spoken at a rate within or around the UN's recommended range (120 wpm in English), except for a few which were delivered at a rate far above that. These findings provide evidence of what was reported in the UN interpreting community (e.g., Baigorri-Jalón and Travieso-Rodríguez 2017; Shermet 2018) on speakers' extensive use of complex syntax in UN conferences, but differ from those obtained by Barghout et al. (2015) who found that UN delegates in general spoke extremely fast.

This study also identified differences in the interpreter's output regarding content-, form- and delivery-related features of performance quality when working with and without text. That is, the interpreter made repairs, minor omissions, as well as expanded and substituted renditions of both minor and major types less often and used utterance-final particles more frequently when working with text than without. On the other hand, he made reduced and substituted renditions of both major and critical types as well as inaccurate lexical choices and spoke in unusual syntax more often when using the script than when not. Furthermore, the interpreter had a slightly lower vocal pitch variation when working with text than without; his speech during SI with text, in comparison with that during SI, had longer and a greater proportion of unfilled pauses as well as more frequent disfluencies (e.g., repeats, voiced hesitation, syllable lengthening, and non-grammatical pauses). These findings suggest that doing SI with text has both positive and negative effects on interpreters' output: it enhances the syntax, fluency,

lexical choices, and source-target correspondence for details in interpretations but may lead to substantial inaccuracies and omissions. The findings contribute to answering the second main research question and sub-questions. However, they neither fully confirm the first two hypotheses nor support earlier studies (e.g., Lambert 2004; Pyoun 2015; Setton and Motta 2007) that suggest a clear-cut effect (i.e., enhancement or hindrance) of working with text on simultaneous interpreters' output.

The experimental study explored users' perceptions of output in SI with text by using excerpts from the compared interpretations as the stimulus material and having them evaluated in a 'blind test' embedded in an online questionnaire. The questionnaire was distributed to a group of experts approximating the original users. It sought the group's preferences regarding the style, form, intonation, fluency, and their overall impression of these excerpts. Before surveying the group about their preferences, respondents were asked about their expectations of SI services. The approach was inspired by Collados Aís's (1998) experiment comparing users' judgment and expectations of SI quality.

The survey of the group's expectations and preferences yielded the following findings: 1) the group highly expected correct terminology, sense consistency and logical cohesion, followed by appropriate Chinese usage, fluency of delivery, correct grammar, and steady pace, whereas pleasant voice and lively intonation were not as important as the other quality criteria; 2) the group's perceptions largely coincided with measured features except for intonation, and were likely to be influenced by the criteria which respondents valued highly; and 3) the excerpts of SI without text received more and stronger preferences regarding the relevant features than those of SI with text. The first finding adds weight to previous studies (e.g., Kurz 1993) which showed users' high expectations for terminology, sense consistency, and logical cohesion and low expectations for intonation and pleasant voice. The second finding implies that users can judge quality properly regarding form, style, and fluency, and their perceptions correspond to their expectations. The third finding suggests that users tend to prefer the output in SI to that in SI with text regarding both form- and delivery-related features. These findings help answer the third main research question and sub-questions and confirm the corresponding hypothesis.

7.3. Limitations

Although the limitations of the three studies were discussed in detail in the corresponding chapters, some are worth reiterating, and some need to be added regarding the overall scope of this thesis. These limitations can be classified into three major categories:

The first one emanates from the research context. That is, the current research set out to focus on the setting of UN meetings, which vary in times, forms, topics, sizes, locations, activities, languages, groups of delegates attending and so forth, but it investigated only two specific events. As a result, the findings from the fieldwork study are not representative of the diversity of UN conferences, and one cannot infer that what has been observed in these two events necessarily applies to other meetings. For example, some UN meetings held in a host country include the local language, in addition to the official languages which were the only options available in the two conferences; some nowadays take place in a hybrid form with the option to participate either in-person or remotely while one of the observed conferences (i.e., the 59th COPUOS session) could be accessed only on the premises.[32]

The second group concerns the language combination and the direction of interpretation. This research covered only one specific language pair and direction, English-to-Chinese. However, SI services in UN conferences are available in a combination of six languages, and interpreters in the English, French, Spanish and Russian booths work unidirectionally (i.e., into their A language) whereas those in the Arabic and Chinese booths work bidirectionally (i.e., from and into their A language). Consequently, the findings from the corpus-based study might have been impacted by language-specific features and do not necessarily apply to all language pairs and directions. That said, this limitation could not be easily resolved for two reasons: First, I do not speak the other four languages and therefore do not have the capacity to study them. Second, during the observation interpreters in the Chinese booth worked only from English into Chinese. This research does not reflect the whole range of language combinations in UN

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[32] These examples are based on my working experiences as an interpreter for the UN Food and Agriculture Organisation (FAO). The languages used in some FAO conferences include Italian; in response to the COVID-19 pandemic, most FAO conferences are held in a hybrid form, with interpreters and some delegates gathering on the premises and others joining online.

booths. Yet, it is largely representative of SI in the Chinese booth because the interpreters there work mostly from English into Chinese.

The third group of limitations relates to methodology. In the fieldwork study, the interviewed interpreters all worked for the UN as contracted freelancers and their opinions as well experiences may therefore not fully reflect those of UN staff interpreters. One might argue that this study could have exclusively approached the staff interpreters. Yet this plan, envisioned in the first observation, could not be implemented as the staff interpreters on duty were not available for interviews. During the second observation, almost all the interpreters working on site were recruited temporarily to supplement the few staff interpreters. Without access to information on the names, work schedule and booth location of the staff interpreters, it was impossible for me to identify and approach them. One way to overcome this limitation would have been to interview the staff interpreters working in other meetings, housed inside the UNOG premises, but I had neither access nor permission to do so. Another limitation is that the interviews occurred in the field and during the observation period. Consequently, the responses obtained may have been influenced by short-term contextual and circumstantial factors (e.g., stress, workload, and familiarity with the conference topic) experienced by the interpreters at the time of the interview.

In the corpus-based study, the most evident limitations are the compromise between breadth and depth and an unavoidable lack of objectivity. As already explained, there are no commonly accepted standards for assessing SI quality. Neither did I, as a self-funded PhD student, have the resources to recruit qualified examiners for scrutinising the materials and validating the methodology or to delve deeply into the assessed features. That said, the assessment process was made as transparent as possible, the features were clearly defined, and the measurable ones were assessed with the help of relevant software (Praat). In considering this limitation, it should be emphasised that whoever acts in the role of analyst will unavoidably rely on subjective judgments in his or her assessment of interpretations. Moreover, given the limited resources, it is unlikely that a single researcher could successfully achieve breadth and depth simultaneously. Overcoming this limitation would require the development and validation of conference SI quality assessment standards that can be used objectively by both academia and industry. A good starting point might be to look at recent publications on interpreting quality assessment with a particular emphasis on support through partial automation (see Han and Lu 2021).

In the experimental survey, the major limitations are the sampling, the lack of incentives, the stimulus material, and some ill-defined quality features in the questionnaire. As mentioned already, the absence of incentives could have led to the low response rate and consequently affected the statistical strength of the responses. This factor, together with the fact that the survey did not address an issue of prime importance to the respondents in the field of outer space, may have made the target population reluctant to participate. Also, uncertainty about the definition of the features in the questionnaire could have prevented the respondents from rating them reliably in the assessment of the stimulus material. Therefore, the respondents' preferences regarding a given feature may not have been based on their perceptions of the corresponding indicator(s) assumed in this study. Moreover, although the excerpts exhibited high comparability, differences did exist between them which could have influenced the respondents' perceptions. Nevertheless, this limitation was inevitable due to the constrained choices of the experimented input materials. As regards sampling, the target population approximated the Chinese delegates with expertise in outer space rather than those who were UN diplomats. While noting this limitation, I did not have the necessary information to contact these diplomats and recruit them for participation in the survey. In another sense, though, this limitation is not a disadvantage. According to Shermet (2017, 2018) there are two types of UN meetings, one for diplomats and the other for experts, and the two groups constitute UN delegates. Since the stimulus material consisted of the interpretations delivered in the technical meeting for experts, the sample selected for the survey study may be considered appropriate, as it reflects the actual primary audience of the event.

7.4. Overall implications

The research presented in this thesis has a number of implications for scholars and practitioners.

On the theoretical side, the implications are not revolutionary but worth considering. One of them is that this research provides support for the work of Gile (2009) regarding cognitive load. This research indicates that, as shown in Gile's (2009) Effort Model for SI with text, the reading task may overload simultaneous interpreters' processing capacity and ultimately lead to performance failures.

Another implication is that this research extends the experimental work of Coverlizza (2004) by comparing professional simultaneous interpreters' output resulting from working with and without text in real-life situations and examining a wide range of output-related features systematically. This research explores real professional assignments on conference premises, which is not only rare in interpreting studies but the first of its kind in research regarding SI with text. It also challenges earlier experiments (e.g., Lambert 2004; Pyoun 2015; Setton and Motta 2007) that suggested a single effect of SI with text on performance quality. On the contrary, it shows that SI with text has a two-fold, contradictory impact on interpreters' output – being both a 'friend' and a 'foe'.

Furthermore, this research validates a contextualised, multi-perspective view of quality as emphasised by Pöchhacker (1994b) and Moser-Mercer (1996). For a thorough examination of quality, the analysis of interpretations should consider multiple perspectives (e.g., the service provider and recipient) and the situational context (e.g., the environment, speaker, interpreter, and interaction) where interpreting activities take place. In this research, the corpus-based study would be of limited value or even impossible without the findings obtained from the other two studies which demonstrate the assumed relevance of contextualising SI with text in UN conferences, show the conditions under which the analysed interpretations were produced, and reveal the perceived impact and quality of SI with text performed in UN conferences. After all, interpreters' output can be influenced by many contextual factors such as speakers' delivery style, the availability and legibility of scripts, and interpreters' stress, fatigue, preparedness and working modalities. Also, the product in interpreting should not be assessed in isolation from the user perspective if the aim includes understanding clients' perceptions of quality and possible effects on their satisfaction.

This research also has two important implications for interpreter trainers. First, in teaching SI with text, it is crucial to cover a variety of scenarios where this working mode can occur, regarding, for instance, interpreters' preparation, speakers' delivery, the content of scripts, and the arrival time of scripts. This enables interpreter trainees to gain wide-ranging experience in an environment that mimics real-life work situations. Second, special attention should be paid to enhancing not only trainees' skills in handling scripts in these scenarios but also to their awareness of the two-fold impact of working with text on SI quality, especially the negative effect on target-language form and delivery as demonstrated in this research. This knowledge

should prompt trainees to develop coping strategies to prevent or reduce the detrimental impact they may experience as a result of working with text.

For professional interpreters, one of the key implications is related to the use of text in SI. Interpreters often choose to work with text in the entire SI process to achieve source-target correspondence and yet, even when they are experienced, their renditions may ultimately be inaccurate and incomplete, as this research demonstrates. While it is true that speakers provide interpreters with the script of their speech for accurate interpretations, this does not imply that working with the script during SI always ensures optimum quality. Whether and how to use it depends on the circumstances that interpreters are facing. Questions that interpreters should ask themselves in order to decide this include: Is there sufficient time for preparation? Does the speaker follow the script verbatim? Does he or she speak with an accent that impairs listening comprehension? Does he or she speak fast, especially at a pace that is nearly impossible to keep up with? Whatever the circumstances, interpreters need to bear in mind that the script is made available to assist their comprehension and should by no means be taken as the primary or even sole source of input. After all, it is what speakers say out loud that constitutes their primary input.

Another important implication concerns the user perspective. The purpose of interpreting, as a service profession, is to benefit the user; regardless of their expectations and linguistic skills, the target-language form and delivery are the key indicators that users intuitively sense and appreciate when listening to an interpretation. As this research indicates, users are able to perceive these aspects. Therefore, no matter which working mode is used, interpreters should spend as much care and effort in enhancing the form and delivery features of their output (e.g., fluency, intonation, syntax, and lexical choices) as they would in ensuring the accuracy and completeness of their interpretations.

There is also a key practical implication for the UN as employer. That is, making the script available to interpreters does not necessarily secure improved interpretation quality in terms of accuracy and completeness. Rather, it may affect negatively not only these aspects but also the target-language form and delivery of simultaneous interpretations. This research serves as a reminder of the potential unintended consequences caused by the availability of scripts. Yet, this is not to say that there are no benefits to providing interpreters with scripts or that this effort should be abandoned. One may also argue that this reminder exaggerates the negative

impact of the availability of scripts, as interpreters' skills (e.g., stress management, and linguistic competencies), preparedness (e.g., familiarity with the text, and the knowledge of the conference topic), experience in working with text, speakers' delivery style and so on are all factors that contribute to the success in performing SI with text. While this research is neither exhaustive nor meant to convince or discourage the UN from providing interpreters with scripts, hopefully it can prompt the organisation to consider what could be done in order to prevent or mitigate these adverse consequences and achieve interpreters' best possible performance. One suggestion is that specialised in-house training in SI with text can be offered for and promoted among both staff and freelance interpreters on a regular basis. And strategies should be studied and shared among them regarding dealing with typical speech delivery situations in UN conferences, such as high speed, heavy accents, complex syntax, and deviation from the written text. Also, when encouraging UN delegates to share the script of their speech, it is necessary to 'educate' them by putting them in the shoes of interpreters – making them aware of the difficulties and complexities added by handling the script in the SI process, promoting (where possible) the use of simple syntax in speech, and continuously urging them to share the script as early as possible and speak at a moderate pace that is easy to follow and amenable to SI.

The last important implication of this research concerns the feasibility and value of studying interpreting phenomena and products based on real-world events. To control variables and reduce uncertainties, many researchers collect data in simulations or experiments. Yet, such studies lack ecological validity. One may argue that not every researcher has access to the field and not every natural interpreting occasion generates data that is of acceptable quality or interest to the researcher. However, there are many open digital archives and libraries by governments, international institutions, and the private sector that store a wealth of valuable materials (e.g., images, texts, audios, and videos) from naturally occurring events with interpretation services. Researchers in interpreting studies hence are encouraged to identify and capitalise on such resources when appropriate.

7.5. Recommendations for future research

This research has raised many questions in need of further investigation. One possible area of future research would be to explore SI with text performed in UN conferences where the main audiences are diplomats. These conferences are different from other conferences in terms of

form and communication, and so are the speeches by diplomats; further, some diplomats in these conferences monitor the interpretation or listen to it while reading from the script (see Shermet 2018). In dealing with such situations, interpreters may face more stress and difficulties than in working at meetings for experts; also, diplomats are likely to have high expectations for SI services. These factors could all influence the way interpreters perform SI with text and the perceived quality of their output.

It would also be interesting to extend the current research by considering the arrival time of scripts in the booth, the language combination/direction of SI, speakers' accents and speed of delivery, and other factors that could influence interpreters' performance of SI with text. For instance, when a script is made available after the speech has started, interpreters may not even read it or simply read a few key pieces of information; when rendering speeches with heavy accents, they may concentrate more on the script than on the speaker's utterances as the main source of input; when working in similar language pairs (e.g., English/French), the linguistic form of their output may show less interference as a result of the availability of the script than when working in distant language pairs (e.g., English/Chinese) that have drastically different grammatical structure and communicative styles.

Another interesting dimension in which to extend this research is to investigate the impact of working with other types of visual input on simultaneous interpreters' performance. In particular, attention can be drawn to presentation slides, one of the most common written materials that are made available to interpreters in (expert) meetings, be these held by the UN, by other international organisations, or by the private sector. Questions worth answering include: How do interpreters use presentation slides while listening to the speaker? What kind of information (e.g., charts, titles, and bullet points) from presentation slides do they consider helpful and not helpful, and why? Is there a difference in their output resulting from working with and without presentation slides? Future research can also focus on live captions which have recently evolved into a source of visual input in international conferences, especially those held virtually. When live captions are made available to simultaneous interpreters, any delay of real-time transcription or failure to accurately transcribe the speech may interfere with performance and ultimately affect interpreters' output. This new topic has yet to be explored in the interpreting studies literature.

Overall, the research presented in this thesis involved different perspectives – interpreters, analyst, and users – and employed multiple research approaches, including field observation, survey research, experiment, and corpus analysis, to examine the context and product of SI with text performed in UN conferences. On the basis of evidence from real interpreting assignments, it has yielded findings that offer valuable insights into interpreting practices at the UN, such as the typical features of read speeches as well as UN simultaneous interpreters' work environment, conditions, practice of SI with text and reasons behind it. More importantly, this research reveals the overall impact of SI with text on interpreters' output, which was discussed but never systematically addressed, and shows how the quality of SI with text is perceived by the target audience. These novel insights have filled a significant gap in the literature and in the understanding of SI with text, especially within the UN context. This research can be illuminating for a wide range of audiences – from the UN as employer to interpreters, trainers, and interpreting studies researchers – as it helps shed light on issues that they may experience and provide them with a point of reference. It is my hope that the outcome of this research will serve as a relevant contribution to the state of knowledge regarding SI with text, especially in the UN context, and offer valuable insights to scholars and practitioners.

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Appendix I. 6th GPDRR Session Full Programme

13-14 May — Preparation and Consultation Days
4th World Reconstruction Conference, 2nd Multi-Hazard Early Warning Conference Regional and Stakeholder Consultations, SIDS meeting* and other events

Wednesday 15 May, Day 1: Taking Stock

Welcome Session 9:00 - 10:00 Room 1

High-Level Dialogue 1 — Progress made in implementing sendai framework - global and regional perspectives 10:00 - 11:30 Room 1

Official Opening Ceremony 12:00 - 12:45 Room 1

5 Side Events 13:00 - 14:30 Rooms: Geneva (CCV), 7/8, 13, 14, 18

2 Learning Labs 13:00 - 14:30 Rooms: Nyon, Vevey (CCV)

Special Session — Women leadership in DRR 14:30 - 16:00 Room 4

High-Level Dialogue 2 — Advances in national and local DRR strategies (Target E) 14:30 - 16:00 Room 1

Ministerial Round Table — DRR, climate change and SDGs 16:15 - 18:15 Room 5/6

Working Session — Sendai framework implementation 16:30 - 18:00 Room 4

Launch of the Global Assessment Report 12:45 - 13:15 Room 1

Press Conference 13:30 - 14:00 Room 4

Working Session — Global assessment report 2019 14:30 - 16:00 Room 3

Working Session — National and local DRR strategies (Target E) 16:30 - 18:00 Room 3

Lunch 11:30 - 14:00 Restaurant 1st Floor
Official Statements - 13:00 - 18:00 Room 2

Reception Hosted by Switzerland (by invitation only) 18:30 - 19:30 Room TBC

Thursday 16 May, Day 2: Risk-Informed Public and Private Investments

High-Level Dialogue 3 — Risk-informed public and private investments 9:00 - 10:30 Room 1

Side Event 9:00 (CCV) Room Geneva (CCV)

Ministerial Round Table — Risk-informed investments & economics of DRR 11:00 - 13:00 Room 5/6

Working Session — Unlocking the resilience dividend 11:00 - 12:30 Room 3

Working Session — Build back better & WRC outcomes 11:00 - 12:30 Room 4

5 Side Events 12:30 - 14:00 Rooms: Lausanne (CCV), 7/8, 13, 14, 18

2 Learning Labs 12:30 - 14:30 Rooms: Nyon, Vevey (CCV)

Lunch 12:30 - 14:00 Restaurant 1st Floor

Working Session — Innovative DRR investment modalities 14:30 - 16:00 Room 3

Working Session — Health in all disaster risk management strategies 14:30 - 16:00 Room 4

High-Level Dialogue 4 — Leaving no one behind - investing in local action and empowering those most at risk 14:30 - 16:00 Room 1

Working Session — Promoting locally-led DRR/DRM 16:30 - 18:00 Room 3

Working Session — Disaster displacement & DRR 16:30 - 18:00 Room Geneva

Working Session — Global risk assessment framework 16:30 - 18:00 Room 4

Official Statements - 9:00 - 13:00 Room 2
Official Statements - 15:00 - 17:00 Room 2

Sasakawa Award Ceremony & Reception 18:15 - 19:15 Room 2

Friday 17 May, Day 3: Climate Change Action & DRR for All

High-Level Dialogue 5 — Pursuing Coherence Between the Sendai Framework, the 2030 Agenda for Sustainable Development and the Paris Agreement 9:00 - 10:30 Room 1

Working Session — National DRR strategies and climate NAPs 11:00 - 12:30 Room 3

Working Session — The role of green, blue and gray infrastructure in reducing disaster risk 11:00 - 12:30 Room 4

Working Session — What role financial instruments can and cannot play in disaster risk management 11:00 - 12:30 Room Geneva (CCV)

2 Learning Labs 12:30 - 14:30 Rooms: Nyon, Vevey (CCV)

5 Side Events 12:30 - 14:00 Rooms: Lausanne (CCV), 7/8, 13, 14, 18

Lunch 12:30 - 14:00 Restaurant 1st Floor

Working Session — Integrating risk management ecosystems and water-related risks 14:30 - 16:00 Room 3

Working Session — Multi-hazard early warning systems 14:30 - 16:00 Room 4

Working Session — Cities on the forefront of achieving inclusive Climate and disaster resilience 14:30 - 16:00 Room 2

Risk Award Ceremony 16:30 - 17:00 Room 1

Closing Ceremony 17:15 - 17:45 Room 1

Official Statements - 9:00 - 12:00 Room 2

18 May — Field Visits
DRR practices in Switzerland

Innovation Platform — Wednesday to Friday 09:00 - 18:00

Ignite Stage — Wednesday to Friday: 09:00 - 18:00

*SIDS meetings will take place Sunday 12th and Monday 13th of May at WMO

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Appendix II. Questionnaire Invitation

(Translated version)

Invitation: Survey on Chinese interpreting at the UN
Centre for Translation Studies, the University of Vienna, Austria

Dear (with the title and surname),

Thank you first of all for taking the time to read the invitation. I am a researcher from the Centre for Translation Studies, the University of Vienna, studying the quality of Chinese interpretation provided at the UNCOPUOS session. You receive the invitation because of your expertise and experience in the field of outer space.

This survey, the first of its kind, asks you to listen to and then comment on four extracts (maximum 1 minute each) of simultaneous interpretation into Chinese. Your responses will provide insights into the interpretation service quality expected by Chinese expert participants in such conferences and help inform decisions on interpreters' working practices.

Please be assured that your responses will be used exclusively for academic purposes and kept fully anonymous and confidential. Your participation in the survey, which will take about 10 minutes to complete, is entirely voluntary.

If you agree to participate, you can start the survey by clicking the link or scanning the QR code at the end of this email. For further information or any questions, please contact at my email.

The survey will remain open until the end of January 2019. Thank you for your support!

Kind regards,
Liuyin ZHAO

Centre for Translation Studies, the University of Vienna, Austria
Mobile: (with the number)
Email: (with the address)

Please click here to start the survey

-----Link-----

Or scan here to start the survey

-----QR code-----

Appendix III. Questionnaire Reminder

(Translated version)

Invitation: Survey on Chinese interpreting at the UN
Centre for Translation Studies, the University of Vienna, Austria

Dear (with the title and surname),

You recently received an invitation to participate in a survey on Chinese interpreting at the UN. Since the system has not recorded any response from you, this is to kindly remind you that the survey will remain open until the end of January 2019.

If you agree to participate, you can start the survey by clicking the link or scanning the QR code at the end of this email.

Thank you for your support!

Kind regards,
Liuyin ZHAO

Centre for Translation Studies, the University of Vienna, Austria
Mobile: (with the number)
Email: (with the address)

Please click here to start the survey

-----Link-----

Or scan here to start the survey

-----QR code-----

Appendix IV. Questionnaire

(Translated version)

Survey on Chinese interpreting at the UN

Thank you for participating in the survey.

The survey is addressed to you – as an expert in the field of outer space and the user of simultaneous interpreting services (see the blue font below for its explanation; hereafter 'SI') – for your opinions on SI quality.

There are 7-14 questions, including 4 audio samples of SI. Please make sure the volume on your device is turned on and click the yellow button below to start.

SI: an interpreter in a booth listens to a speech through headphones and simultaneously speaks the corresponding interpretation into a microphone connected to receivers in conference rooms (see the picture).

START

Have you attended international meetings with SI into Chinese? (Required)*
☐ Yes.
☐ No.

How many times in the last three years have you attended such meetings? (Type numbers)
About ____ time(s) altogether.

Does this include the meetings held by the UN system? (If yes, type numbers)
☐ Yes, approximately ____ time(s).
☐ No.

Generally, how do you use SI into Chinese at meetings?
☐ I listen to it all the time.
☐ I listen to it selectively.
☐ I listen to it only occasionally.
☐ I never listen to it.

Why do you never/only occasionally listen to SI into Chinese? (Type words)

How important do you consider the following aspects of SI?

	Very important	Important	Less important	Unimportant
Correct grammar	☐	☐	☐	☐
Correct terminology	☐	☐	☐	☐
Sense consistency with the original	☐	☐	☐	☐
Appropriate Chinese usage	☐	☐	☐	☐
Lively intonation	☐	☐	☐	☐
Fluency of delivery	☐	☐	☐	☐
Logical cohesion	☐	☐	☐	☐
Completeness	☐	☐	☐	☐
Pleasant voice	☐	☐	☐	☐
Steady pace	☐	☐	☐	☐

Does anything irritate you when listening to SI?

☐ Yes.

☐ No.

Please specify what irritates you: (Type words)

[   ]

Here are two interpretations of the speeches from the delegates of two countries (about 1 minute each). Please first click 'PLAY' to listen to them, and then answer the following questions.

Note:

Make sure your headphones/speakers are turned on before playing the audio.

It may take a short while to load the audio, so please be patient.

---------SI audios-------- PLAY

Please drag the blue sliders to rate the interpretations you have just heard.

	Nimo State is better	Both are equal	Tukustan is better
Overall impression		●	
Fluency		●	
Intonation		●	
Natural Chinese language use		●	
Engaging style of expression		●	
Voice		●	

Do you have any comments? (Type words)

[   ]

Here are two interpretations of the speeches from the delegates of two countries (ca 0.5 minute each). Please first click 'PLAY' to listen to them, and then answer the following questions.

Note:
Make sure your headphones/speakers are turned on before playing the audio.
It may take a short while to load the audio, so please be patient.

---------SI audios-------- PLAY

*Please drag the blue sliders to rate the interpretations you have just heard.

	Kovin State is better	Both are equal	San Shier is better
Overall impression		●	
Fluency		●	
Intonation		●	
Natural Chinese language use		●	
Engaging style of expression		●	
Voice		●	

Do you have any comments? (Type words)

What is your age? (Type numbers)
I am _____ years old.

What is your gender?
☐ Male.
☐ Female.

Submit

Survey completed. Thank you!

Abstract

Mehrsprachige Konferenzen der Vereinten Nationen (VN) bieten ein einzigartiges Arbeitsumfeld für DolmetscherInnen. Bei den VN tätige KonferenzdolmetscherInnen bieten Simultandolmetschen an, um die Kommunikation zwischen den Delegierten zu erleichtern, die in einer der Amtssprachen sprechen. Da RednerInnen oft von einem schriftlichen Text ablesen, geben DolmetscherInnen die vorgelesene Rede typischerweise mit Hilfe des ihnen zur Verfügung gestellten Manuskripts wieder, auf das sie sich stützen, während sie dem/der RednerIn zuhören. Es wird davon ausgegangen, dass die Arbeit in diesem Modus, der als „Simultandolmetschen mit Text" bekannt ist, sowohl Vorteile als auch Risiken für die kognitiven Verarbeitungsvorgänge der DolmetscherInnen mit sich bringt und daher die Qualität ihrer Zieltexte beeinträchtigen kann. Die vorliegende Arbeit untersucht Dolmetschleistungen, die in diesem Arbeitsmodus im institutionellen und situativen Umfeld von VN-Konferenzen erbracht werden. Es soll festgestellt werden, ob und wie die Leistung der SimultandolmetscherInnen variiert, wenn sie das Manuskript verwenden oder nicht. Es wird die Hypothese geprüft, dass Simultandolmetschen mit Text die inhaltlichen Aspekte der Darbietungsqualität verbessert, sich jedoch negativ auf die sprachliche Form und die Darbietungsweise der SimultandolmetscherInnen auswirkt. Im Rahmen der Studie wurde ein Korpus von authentischen VN-Reden (d. h. vier Dutzend vom Manuskript vorgetragene englische Reden und die entsprechenden Simultandolmetschungen ins Chinesische) in Bezug auf 17 zieltextbezogene Merkmale analysiert. Die korpusbasierte Analyse wird mit Erkenntnissen aus einer Feldbeobachtung von zwei VN-Konferenzen in Genf und Wien und einem webgestützten Umfrageexperiment unter einer Expertengruppe trianguliert, um die Perspektive des Zielpublikums der Dolmetschungen zu erfassen. Die Ergebnisse 1) bestätigen die weit verbreitete Verwendung des Manuskripts durch VN-DolmetscherInnen in der Kabine; 2) zeigen Unterschiede in den Zieltexten eines Dolmetschers, die aus der Arbeit mit bzw. ohne Manuskript resultieren; und 3) deuten auf eine Präferenz der ZuhörerInnen für Dolmetschungen, die ohne Verwendung des Manuskripts erbracht werden. Es wird der Schluss gezogen, dass die Arbeit mit dem Manuskript sowohl vorteilhaft als auch nachteilig für die Qualität von Simultandolmetschleistungen ist: Sie verbessert die Übereinstimmung zwischen Ausgangs- und Zieltext im Hinblick auf Detailinformationen sowie auch die zielsprachliche Syntax, hat jedoch einen negativen Einfluss auf die Redeflüssigkeit und die Korrektheit des lexikalischen Ausdrucks. Die Auswirkungen auf die Arbeitsbedingungen und Leistungskriterien von SimultandolmetscherInnen sowie auf die wahrgenommene Qualität ihrer Arbeit werden diskutiert.

Schlagworte: Simultandolmetschen mit Text, Vereinte Nationen (VN), Qualitätsbewertung, Nutzerperspektive