Prosody in Simultaneous Interpretation: a Case Study for the German-Italian Language Pair

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Abstract

Prosody in simultaneous interpretation (SI) is a recent research field receiving increasing attention but still insufficiently explored for certain language pairs. The present contribution discusses the prosodic features of interpreted texts as such and in relation to the source text (ST) for the German-Italian language pair.

The target texts (TTs) of six professional interpreters were transcribed and analysed according to the following analysis criteria: speech rate, pauses (filled and unfilled and their position in the text) and syllable lengthening, intonation and prominence.

The objective of the study was to analyse the prosody of professional interpreters through the perceptual method, assessing the features of prosody as observed in interpreting practitioners. Since the ST is an example of impromptu speech, the study also aimed at understanding the role played by spontaneous speech in the interpreting process.

The results concerning interpreters' speech rate and intonation confirmed consolidated theories in SI, whereas categories such as pauses, stress on words and the sub-category of syllable lengthening raised new points, showing that some specific behaviour is intentionally produced by interpreters to deal with difficult portions of text through the use of prosodic features.

Introduction

Prosody is the combination of speech intonation, stress and rhythm and is essential for a fluent and natural delivery; it may facilitate or hinder comprehension.

Prosody can be considered a hallmark of expertise since a conference interpreter is a "communication professional who needs to be a good public speaker" and should not speak in a "deadpan monotone, nor in a sing-song [...] making *their* (ed.) interpretation as easy and pleasant to follow as possible" (AIIC 1982). Research in the past has shown that professional interpreters sometimes display anomalous intonation and stress patterns (Shlesinger 1994; Ahrens 2004) due to the cognitive load they are exposed to during SI. To what extent the speaker's prosody may affect comprehension of the ST by the interpreters is still little explored and deserves further research.

This case study analyses the prosody of an impromptu speech dense in information and its SIs performed by 6 professional interpreters with the aim of acquiring more data to integrate, confirm or confute previous studies.

According to Beaugrande and Dressler (1981) prosody is a subsidiary system of text cohesion: its absence may influence a crucial phase of SI, namely ST comprehension and, from the perspective of the interpreter's prosody, TT comprehension by the audience. Understanding the ST and producing the TT also depend on a number of paralinguistic elements. Collados Aís *et al.* (2011: 76-91) stresses that intonation is crucial for the logical cohesion of the text and the interpreter can use it to save time by delivering with prosodic features what the speaker expresses verbally or, sometimes, with face or gestures.

Indeed an appropriate use of prosody is first of all desirable in the ST, since it supports the interpreter's comprehension. Then, an interpreter with a good command of all prosodic features will contribute to the audience's comprehension and, therefore, to the success of the communication process.

1. Prosody in SI
1.1 Prosody: constituents and pertinence for SI

Prosody is defined as the *suprasegmental level* because it concerns specific features of the language whose application domain is wider than that of the single sound (Sorianello 2006: 16).

Prosody is a complex subject not only because the terminology concerning its elements often differs according to the author and the analysis methods. Hargrove and McGarr (1994: 3 ff) define prosody as multifaceted (composed by intonation, pauses, speech rate, etc.) and not directly corresponding to the specific linguistic meaning, because context and situation play a crucial role in the interpretation of prosodic elements by the audience.

The terminology used by prosody researchers is so diverse that the present study draws mainly on the terminology of Sorianello (2006), whose research is one of the most complete and recent Italian contributions to the analysis of intonation and prosody.

The definition of the prosodic elements analysed in this study combines the explanations of Sorianello (2006), Cruttenden (1986), Voghera (1992), Hargrove/McGarr (1994) and Canepari (1985).

The following prosodic elements were analysed in the case study:

– *Speech rate* refers to the number of syllables and phonemes uttered in a given time unit (Sorianello 2006: 31). Unlike articulatory speed (Goldman Eisler 1958a: 61), this also includes pauses. Speech rate depends on many prosodic factors including pauses, vowel and consonant lengthening, style, context etc.
– *Pause* is a temporary interruption of articulatory activity (Sorianello 2006: 30). In prosody literature (Sorianello 2006; Ahrens 2004; Cruttenden 1986; Schwitalla 1997) pauses are unfilled (silence) or filled (hesitations, vocalisations, etc.). The former are the silences within the speech and the latter (ehm, mm) are examples of vocalisation typical of impromptu speech which depend on the difficulty of linguistic production (Sorianello 2006: 30). Syllable lengthening is not an actual interruption of the phonation, but a continuation of the last vowel or consonant of a word while processing the new part of speech to be uttered.
– *Intonation* is "the pitch contour of an utterance" (Ahrens 2005: 53). One after the other, tone units create the melodic framework of the speech and in order to define the limits of a tone unit, the *tonic* must be found. The tonic is the syllable with the highest intensity compared to the other syllables of the tone unit (Voghera 1992: 111). In Italian the tonic is usually placed on the last accented syllable of the tone unit (Voghera 1992; Canepari 1985). A universal of intonation is the opposition between rising and falling boundary tones (ending tone of a tone unit) – the first usually implying a sentence left open to be continued and the second implying the conclusion of an utterance. Cruttenden (1986: 45) differentiates three *terminal junctures* (boundary tones): falling, rising and level. A falling boundary tone is detected when a conclusive intonation is perceived, whereas a raising boundary tone shows a non-conclusive and ascending intonation (usually in questions). Finally, a level boundary tone is when the intonation of a tone unit is kept also at its boundary, thus being perceived as suspended.
– *Prominence* is traditionally defined as "a local degree of stress or emphasis" (Liberman, Pierrehumbert 1984 in Sorianello 2006: 49). It refers to the perceptual significance placed on specific syllables or words of an utterance which are consequently perceived as stressed (Sorianello 2006: 49). Often speakers stress the words of their speech which contain new information or when they want to draw the audience's attention.

In SI the interpreter aims at producing a fluent TT, therefore fluency is a fundamental quality feature always included in SI studies (Goldman-Eisler 1980; Kurz 1989; Kopczynski 1994; Altman 1994; Collados-Aís 2008; Collados-Aís *et al* 2011; Zwischenberger / Pöchhacker 2010). It derives from the integration of various prosodic elements such as speech rate, pauses, hesitations, vowel and consonant

lengthening, and self-corrections (Ahrens 2004). Fluency may be defined as an attribute that "indicates the degree to which speech is articulated smoothly and continuously without any 'unnatural' breakdown in flow" (Ejzenberg 2000: 287).

The following paragraph is a short collection of SI studies concerning the single prosody features analysed in the present study in order to gain a general overview of the state of the art.

1.2   Prosody research in SI

The analysis of prosodic elements is an integral part of the Interpretation Studies, yet only few systematic studies on orality involving the ST-TT relationship have been conducted, mainly by Dejean Le Féal (1978), Shlesinger (1989, 1994) and Ahrens (2004). These contributions are relevant for this study because, as stated by Tissi (2009: 9), considering the ST-TT relationship the authors detected specific parameters to take into account while defining the degree of orality of a speech.

The lack of detailed studies on prosody in SI is allegedly caused by the difficulty of controlling non-verbal prosodic elements alongside the fact that the artificial laboratory conditions under which tests are performed do not always reflect the real communication process (Ahrens 2004: 117).

However a number of studies on intonation, pauses, speech rate and prominence should be quoted in order to obtain a clear picture of the state of the art regarding the prosodic features relevant for this study.

Barik (1975), after analysing interpreters' deliveries in order to find omissions, added material etc., detected that TTs are generally rich in false starts and retraces, thereby being "less smooth than 'natural' speech" (Barik, 1975: 294).

Concerning interpreters' intonation, Shlesinger (1994) studied excerpts of a real work situation. The author asserted that interpreters used a particular intonation not to be found in any other language use and mainly characterised by a non-final tone at the end of sentences. It happens because the interpreter has to wait for new ST material, not always knowing when a sentence can be concluded.

Ahrens (2004) conducted an exhaustive analysis of a number of prosodic features applied to interpreted texts by means of speech analysis software (PRAAT). The author simulated the conditions of a work situation at the University of Mainz at Germersheim and six interpreters, two in each booth, interpreted a text (English into German). After analysing the transcripts Ahrens found out that the interpreters produced their own tone units probably because they segmented their speech autonomously and also because of the limited short-term memory available. Moreover, Ahrens detected much more rising and non-final (level) boundary tones (see 1.1 and 2.6) than the more natural final boundary tones.

Nafá (2007) investigated how intonation contributes to the organisation of ST and TT in SI by segmenting STs and TTs in phonological paragraphs. These prosodic units introduce new topics and are signalled by boundary markers. The author's results showed that, generally, both speakers and interpreters use intonational features that contribute to the entire ST and TT organisation. It complies

with the literature on intonation, according to which high pitch at the beginning and low pitch at the end of a paragraph are to be found. The present study, though, focused on tone units detected, but not analysed, by Nafá (2007: 182).

Intonation as perceived by the audience has been the object of several analyses carried out by Collados Aís (1998, 2008) and Holub (2010), who conducted studies on the impact of monotonous intonation. Their results were in partial contrast to those of previous studies (Kurz 1989 and 1993) according to which a pleasant voice and an appropriate intonation are not crucial quality criteria in SI. Collados Aís and Holub's audiences always defined as better the TTs with lively intonation. Collados Aís (2011: 91) also affirms that a monotonous intonation can be considered by the audience as a lack of interest of the interpreter. Monotony might therefore impair the audience's comprehension, as previously stated by Shlesinger (1994) and Seeber (2001).

Collados Aís *et al.* (2011) published a detailed contribution on quality parameters in SI casting light on the category of intonation in all its parts. A special attention is paid by Collados Aís, in the chapter dedicated to intonation (2011: 61-92), to the perception of emotions through intonation and the description of the interpreter's *sui generis* intonation (Collados Aís 2011: 77). Moreover, the author asserts that in the evaluation grids of most universities training interpreters, intonation and its related categories are still missing and then recalls her previous studies on audience reactions to interpreters' intonation to underline its importance for a successful interpretation.

Pauses were thoroughly studied by the English psycholinguist Goldman-Eisler (1958a/b, 1968, 1972a/b, 1980), who analysing TT pauses in relation to ST speech rate asserted that interpreters make more pauses than the original speaker. They use pauses autonomously to produce the TT.

Čeňková (1989) calculated the pauses in ST and TT and speech rate including and excluding pauses. The author found fewer and shorter pauses when the speaker accelerated and concluded that interpreters formulate the main part of the TT simultaneously to the speaker. According to Čeňková pauses and intonation are the most important tools used by interpreters for segmenting their TT.

Ahrens (2004) analysed pauses, reaching opposite results to those of Alexieva's renowned experiment (1988), according to which TTs show fewer and shorter pauses than the ST. Ahrens detected fewer pauses in the TTs than in the ST, yet their duration was longer, allegedly because they are used to listen, understand and choose how best to express a concept.

Gerver (1969) focused on the effects of the ST speech rate on the interpreters' performance. The results of his experimental study showed that a fast speech rate leads to the production of more pauses, omissions and errors by the interpreters.

The segmentation of speech carried out by interpreters is a further prosody-related aspect. In his experimental study Barik (1975) observed that interpreters process segments at a semantic level, not word by word. Also Goldman-Eisler (1972b: 69) underlines that the segmentation of simultaneous interpreters is "based on comprehension rather than perception". Furthermore, in the same paper the author noticed that interpreters ignore ST segmentation and model the TT with their individual segmentation, since they cannot always wait for a

ST information unit to be concluded by the speaker before starting to interpret. Ahrens (2004) showed that interpreters' tone units are shorter in order not to overload their working memory with too long ST segments.

A further prosodic feature is the stress on words produced by interpreters. Shlesinger (1994) found that interpreters often stress usually unstressed words, namely those lacking in semantic density, conveying an erroneous perception of new and given information (Shlesinger 1994: 231). Ahrens (2004) confirmed the excessive stress put by interpreters on grammatical categories such as prepositions and auxiliary verbs, explaining that it is due to the higher number of tone units produced by interpreters.

Shlesinger (1994) also detected the presence of several vowel and consonant lengthenings attributing them to hesitation or particular emphasis on a word. Čeňková (1989) stated that interpreters produce such syllable lengthening because they speak more slowly than the speaker and by lengthening the vowel/consonant they do not produce any real pause.

SI studies have also focused on defining what kind of text is easier to interpret. Dejean Le Féal (1982) considers an impromptu speech easy to interpret and her theories are supported by Seleskovitch (1982: 16) who, in addition to prosody, also considers facial expressions and gestures an important support for the interpreter's performance. This is echoed by Kopczynski (1982: 255), who asserts that impromptu speech is rendered in a similar kind of speech which remains in the axis of orality, without the interpreter having to adjust it.

Impromptu speech is a heterogeneous category which also includes speeches delivered quickly and with misleading pauses and interruption of sentences which may impair the interpreter's performance. Giuliana Ardito (1999) performed an experiment with interpretation students and stated that "some of the characteristics of speeches delivered without a previously written text – register variation and looser text structure in particular – appear to pose difficulties to Italian students interpreting from Dutch into their native language" (Ardito 1999: 177).

The attention of the present study will home in on the prosodic elements present in an impromptu speech which might, if appropriate, support the meaning decisively. Conversely, if wrongly placed these may hinder the interpreting process.

2.   Case study
2.1   Aim of the study

The study was carried out to offer a research contribution to the German-Italian language pair by analysing a series of prosodic features during the process of SI from a non-statistical perspective using the perceptual method. Voghera (1992: 91) explained that *perception* is not the mere acoustic reaction of the speaker, but their interpretation of the linguistic stimuli acknowledged as such.

Since the text used for the study (see 2.2) is an example of impromptu speech, after collecting the data particular attention was paid to the features of the pres-

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ent impromptu speech as ST for the case study and to the reaction of the interpreters during the SI in terms of prosody.

The first objective is to verify whether the interpreters' speech rate is slower than that of the speaker (see Gerver 1969) due to the décalage and especially if the ST is too fast. Furthermore, since the interpreter is not responsible for the content, waiting for new ST material is inevitable and therefore, as second objective, we also wish to verify whether this consequently leads to longer analysis/reflection pauses in TTs (see Ahrens 2004). For the very same reason the third objective is to verify whether interpreters tend to neglect intonation, leaving sentences often open with level boundary tones (see Ahrens 2004, Shlesinger 1994). Lastly, in contrast to SI literature in general (Shlesinger 1994, Williams 1995 in Ahrens 2004, Royé 1983 in Ahrens 2004), the fourth objective of the study is to verify if interpreters actually stress words with high semantic density to support cohesion for the audience (see 3 for the presentation of the results).

2.2   Materials: ST

The ST used for the study is an excerpt (34:54 minutes out of 60:16 minutes) of the speech delivered by Karl Albrecht Schachtschneider, Professor Emeritus in Public and Civil Law at the University of Erlangen in Nuremberg, Germany. The event was the first meeting organised by a Swiss blog: *Alles Schall und Rauch*. The speech was delivered on the 30th of June 2009, immediately after the decision of the German *Bundesverfassungsgericht* (Federal Constitutional Court) which deemed the Lisbon Treaty to be constitutional, thereby allowing Germany to ratify it. The author opposed the Treaty and the current process of European integration and therefore expressed his opinion emphatically, producing an impromptu speech on issues with which he was very conversant. The text is thus full of information and often delivered at a fast speech rate (for the specific ST details see 3, table 2), since the author is extremely familiar with the subject. Speaking without reading leads the speaker to suddenly change intonation (often by leaving sentences unfinished) and to stress words in a non-standard way. Not having planned the speech in advance, the speaker needs to think and speak at the same time, creating a speech rich in data, information and content.

2.3   Participants

The participants were six professional interpreters who were all asked to interpret the same excerpt of text (see 2.2) in order to have a quantity of interpreted material comparable to that of Ahrens' study. Table 1 shows the details of the six interpreters.

Participants	mother tongue	German	gender	years of experience in SI
interpreter 1	Italian	C	F	2
interpreter 2	German	A	F	30
interpreter 3	Italian	C	M	16
interpreter 4	Italian	B	F	10
interpreter 5	Italian	B	F	10
interpreter 6	Italian	C	M	17

Table 1. Participants

As table 1 shows one interpreter is listed as being German mother tongue, yet the interpreter has both Italian and German as "A" working languages in the classification of a professional association.

Four interpreters work for the EU institutions, two as fulltime staff and two as freelancers; the remaining two mainly work for the private market in Italy and abroad. The average number of years of experience is 14, with a minimum of 2 years and a maximum of 30 years. Four interpreters are female and two male.

2.4   Recording and transcription software

The TTs of the six interpreters were recorded with a M-AUDIO double-track digital audio recorder, model Microtrack 24/96. The ST and the TT were both recorded, but on two different channels to isolate one of the two if needed. The audio tracks were separated to facilitate the transcription. The software used was Audacity, 1.3.13 (Beta). The prosodic transcription required the TTs to be listened to several times. To facilitate the process the software ExpressScribe, specifically designed for transcribing texts, was used.

2.5   Method

To overcome the artificial conditions of a laboratory experiment, the interpreters were asked to interpret a 30-minute excerpt of an original speech (not edited for the study). A week before the interpretation they were informed by e-mail about the event in which the speech had been delivered, the speaker, and the kind of speech, to enable them to search for further details on the Internet, as would happen in a real work situation. On the day of the interpretation the first four minutes of delivery were not taken into account and they were considered as a warm-up for the interpreters.

The method chosen was the *acoustic-perceptual speech analysis*. Acoustic-perceptual analysis is when the analysis is carried out by human experts and not by software (see 2.1).

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The material to be analysed amounts to 200 minutes of interpreted texts. Software-based analysis is typically used for phonology and phonetics studies, where the segments analysed are very short and usually delivered in a laboratory setting – only exceptionally are real-life situations studied.

While the acoustic-perceptual method is often criticised because of its subjectivity, it was primarily chosen because the goal was not to understand the occurrence of prosodic elements in a *normal* speech, but in the complex context of SI. In addition, the human ear can grasp nuances that would be ignored by software (Voghera 1992: 91). The SI context was considered during the analysis, which is why extremely short millisecond-long pauses or slight changes of fundamental frequency were not considered a crucial variable easily perceptible to the audience.

Two different listeners, both involved in SI, conducted the listening phase of the transcriptions. Voghera (1992: 91) states that perception is not the mere acoustic reaction of speakers, but their interpretation of the linguistic stimuli perceived.

2.6   Analysis Criteria

In order to find a suitable method of analysis, the exhaustive experimental study on prosody carried out by Ahrens (2004) was taken in part as the methodological and structural reference (see 1.2 for the presentation of Ahren's study); especially as far as the analysis categories are concerned.

- *Speech rate:* for the present study words were used as the unit of measurement of the speech rate because the aim was not to show the absolute difference between ST and TT, but to point out the effect on the interpreter's performance of a speech rate which is too fast or too slow by analysing short excerpts of texts (Gerver 1969, Déjean le Féal 1978).
- *Pauses and syllable lengthening:* micro-pauses were not considered, whereas their position in the speech flow was. Therefore unfilled pauses <2 seconds were detected but their duration was not precisely measured. Unfilled pauses >2 seconds were noted and measured manually with the support of the transcription software mentioned above (see 2.4). Two seconds is a value already established by Goldman-Eisler (1958b, 1968, 1972a/b) as the limit-value for longer pauses. Audible breaths were considered unfilled pauses because they are actually an interruption of the phonation process. Filled pauses were transcribed as "eh, ehm, mmm" in TTs and "mmm, äh, ähm" in the ST. Syllable lengthenings were included within the filled pauses because they do not interrupt the phonation, yet are a typical example of disfluency in spontaneous speech (Rennert 2010, Pöchhacker 1994, Schwitalla 1997, Voghera 1992, Hargrove/McGarr 1994, Shlesinger 1994). The position of the pauses within the speech was also considered, in particular with respect to the tone and information units (for the definition of information unit see below). Unfilled pauses <2 seconds, unfilled pauses >2 seconds and filled pauses were added together to obtain a total value. Then, after segmenting the speeches into information and tone units, the categories of pause occurrence indicated by Ahrens (2004) were applied (see 3, figure 2).

The total occurrence of each category of pause was calculated to understand the most frequent position of pauses in natural impromptu speech and in SI.

– *Intonation and tone units:* tone units were identified in order to ascertain whether the interpreter followed the ST prosodic segmentation or created a personal one. Voghera's (1992), Ahrens' (2004) and Cruttenden's (1986) criteria were taken into account to delimit each tone unit. Cruttenden (1986) in particular asserts that external (at the boundary of a tone unit) and internal (inside a tone unit) parameters may help the detection process. The external criteria used are pauses, whose occurrence usually delimits a tone unit, and syllable lengthening at the end of a word. The internal criteria concern the definition of a tone unit by the presence of the *tonic* (see 1.1) and indicate the intonation contour of a tone unit. However, an information unit does not always tally with the tone unit in impromptu speech. Therefore, the internal and external criteria were pooled: the intonation contour inside a tone unit was considered with special regard to the detection of a boundary tone and the presence of the tonic syllable. Falling, raising and level boundary tones were considered (see 1.1), a taxonomy already applied in SI studies by Seeber (2001) for the research conducted on intonation and anticipation in SI.

– *Prominence*: all words particularly stressed within the speech were noted, because according to Shlesinger (1994) and Ahrens (2004) interpreters tend to give excessive stress to words in their TTs. Kalina (1998: 200), however, considers prominence an SI-relevant prosodic feature, because in the interest of the semantic and thematic cohesion interpreters usually use more stress than the original speaker. Not all tonics were considered as prominent words – only those actually emerging as overstressed in the speech flow. Ahrens (2004) reports that during an SI, interpreters often stress word categories that are usually unstressed in spontaneous speech, such as articles, prepositions and conjunctions, probably because of the SI-caused cognitive burden and time constraints. Cruttenden (1986) lists words usually stressed in a speech: nouns, main verbs, adjectives, adverbs, possessive and demonstrative pronouns; and words usually not stressed: articles, auxiliary verbs, personal pronouns, prepositions and conjunctions. The prominent words were detected to see whether the interpreters actually stressed a higher number of words compared to a standard speech, and they were then put into the two categories in order to assess whether the interpreters emphasised the usually stressed words.

– *Information Unit*: in order to understand the role of pauses and the ST-TT relation, the texts were also split into information units. The units were detected by considering new versus given information. An information unit needs to be a complete clause (main clause, coordinate clause, subordinate clause etc.) which introduces a new, albeit sometimes short, concept. Even a correction may lead to a new clause: *"tutto ciò è al centro della costituzion/è al centro della nostra vita"* (all this is at the heart of constitut/it is at the heart of our life) should be considered as two information units, since they both have a complete meaning, even though the second clause is a correction of the first.

3.   Results and discussion: ST *vs.* TTs

The results relating to the analysed parameters (speech rate, pauses and syllable lengthening, intonation and prominence) are now presented and discussed.

– *Speech rate:* table 2 shows a comparison between the ST and the six TTs along with the average TT values regarding the total duration (in minutes), the total number of words uttered and the speech rate calculated in words per minute (see 2.6).

subjects	duration (min.)	number of words in total	speech rate (words per minute)
ST	31.04	3871	124.71
interpreter 1	31.04	3534	113.85
interpreter 2	31.06	2973	95.71
interpreter 3	31.02	2398	77.30
interpreter 4	31.06	2638	84.93
interpreter 5	31.01	2853	92.00
interpreter 6	31.07	2042	65.72
average TT values	31.04	2740	88.25

Table 2. ST and TT speech rates and general features

A comparison between ST and average TT values indicates that the six interpreters had a lower speech rate than the original speaker, though there were significant individual differences as shown in table 2. Interpreters 3 and 6 made very long pauses with a remarkably lower speech rate than the ST, yet they delivered a constant speech flow, thereby confirming Kirchhoff's theory (1976/2002) according to which professional interpreters tend to adapt their segmentation strategies to the speaker's speech rate. The ST was sometimes very fast and full of hesitations, changes of planning, and filled pauses. The interpreters, especially those with more experience, tried to establish their own speech rate. In so doing they omitted small parts of sentences, but always tried to keep a constant speech rate. Indeed Riccardi (2003: 229) asserts that interpreters, instead of speaking as fast as a very fast speaker or omitting whole sentences, have a third choice: namely to establish their own speech rate, thereby omitting redundant material. During the study the professional interpreters often summed up very long ST sentences without significantly changing the meaning.

– *Pauses and syllable lengthening*: the presence, position and function of pauses were detected and analysed in the TTs and by comparing ST and TTs. Moreover, the role of syllable lengthening as found in the TTs was investigated.
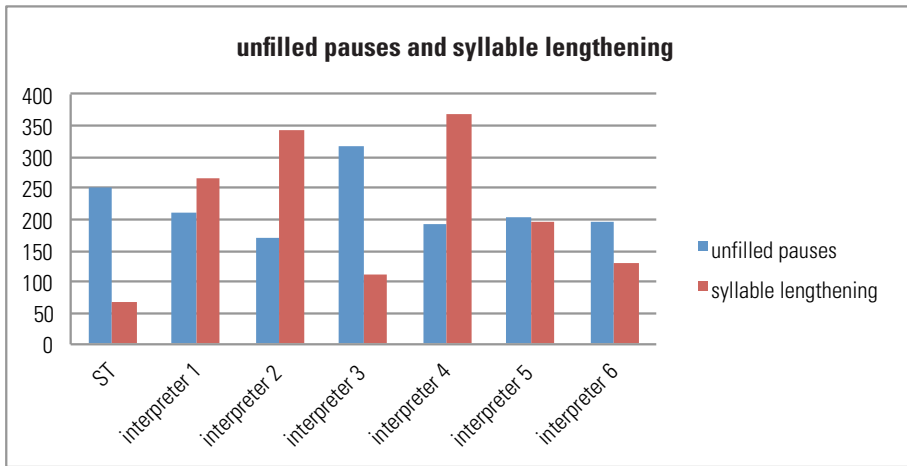
Figure 1. Relation between unfilled pauses and syllable lengthening in ST and TTs

The data concerning pauses comply with Ahrens' results (2004) and contradict Alexieva's theory (1988) according to which TTs usually have fewer pauses which are also briefer than those in the ST (see 1.2). The average number of pauses in TTs was indeed smaller than that in the ST, yet their duration was greater. There were 408 pauses in the ST, whereas the average in the TTs was 292. The ST was full of short unfilled pauses (247 shorter than 2 seconds versus 172 in the TTs), typical of the online planning of the speech. Even though the literature (Dejean le Féal 1982, Seleskovitch 1982, Kopczynski 1982) often considers spontaneous speech easy to interpret particularly because of such pauses, the contrary is true for the present ST (see 2.2). Numerous very short pauses and an almost complete lack of longer pauses for 30 minutes forced the interpreters to choose individually when to make a pause.

Filled pauses (vocalised hesitations) are present throughout the ST, yet not so often in the TTs: 156 in the ST versus 78 in the TTs. Only the interpreter with the shortest professional experience made 178 filled pauses (hesitation pauses), which shows that the difficulty of reconciling the various SI activities can be overcome through expertise and experience. The six interpreters produced an average of 42 pauses longer than 2 seconds (total duration: 257.35 seconds) versus 5 pauses in the ST (24.1 seconds). These had a mainly analytical function: interpreters often stopped during a high-density segment in order to understand it and deliver it appropriately, as explained in Gile's *Effort model* (Gile 1985). Other long unfilled pauses led to omissions.

Figure 1 (above) shows the number of unfilled pauses and that of syllable lengthening in the ST and in the TTs. Interestingly, the TTs displayed a high frequency of syllable lengthening: 235 versus 68 in the ST. Interpreters who produced few unfilled pauses delivered more vowel/consonant lengthenings.

Interpreters 3 and 6 do not follow the trend since they produced more short and long pauses which, as shown in table 2 (page 83), also affected the average words per minute and total word-count. The higher number of syllable lengthen-

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ings taken together with a smaller number of unfilled pauses might be explained as a *prosodic strategy* used by expert interpreters to maintain a constant speech rate and also to avoid short interruptions of the speech flow. Although syllable lengthening is sometimes considered a typical disfluency of impromptu speech (Čeňková 1989), it is not as clearly perceived as an unfilled pause, since it enables a continuation of the phonation activity. Detecting such features in professionals' performances shows how crucial expertise is in finding the most suitable solutions in difficult situations, such as the present ST (see 2.2) and in combining the linguistic and suprasegmental levels.
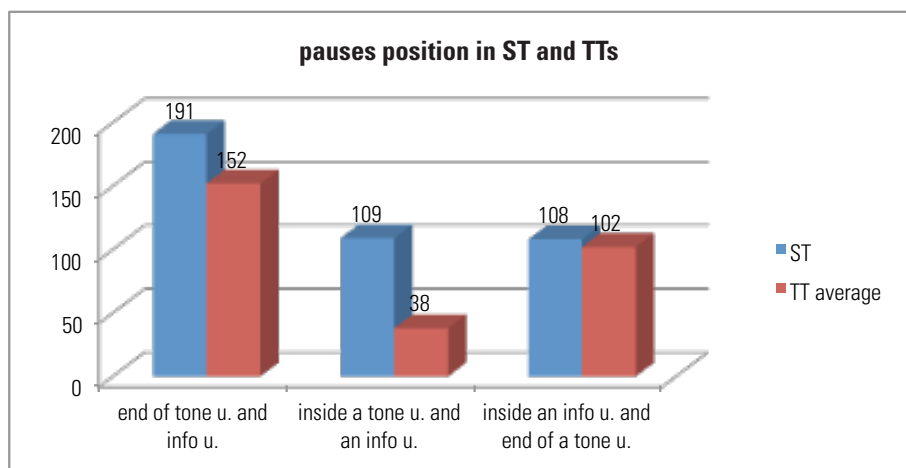
pauses position in ST and TTs

Figure 2. Pause positions in ST and TT average (u. = unit; info = information)

Figure 2 shows the last aspect analysed in the category of pauses, namely their position in the text, especially in relation to information and tone units. The blue columns report the ST's data, whereas the red columns show the average values of the six TTs.

The figure indicates the distribution of pauses with respect to the tone units and the information units in the ST and the average value calculated from the six TTs.

Pauses at the end of an information unit and inside a tone unit were never found either by Ahrens or by the present study and are therefore excluded from figure 2. Pauses at the end of a tone unit corresponding with the end of an information unit are quite usual in the ST, because the speaker decides how to segment the speech. The interpreters proved able to segment their sentences ad hoc at useful and grammatically significant points, as shown by the relatively high number of such pauses (TTs: 152 *vs.* ST: 191). Also the values of pauses inside an information unit but at the end of a tone unit are similar in ST and TTs (TTs: 102 *vs.* ST: 108). They occur when an information unit is divided into several tone units and are actually a prosodic boundary signal. A total of 34.93% of interpreters' pauses belong to this category, thereby showing that they autonomously segment the prosody of their texts for ease of communication. The two pause positions outlined above are both helpful for successful communication because they do not interrupt the

speech flow. The last category, on the contrary, produces an interruption of the speech, as the pause occurs inside a tone unit and an information unit. Such pauses were more prevalent in the ST than in the TTs (TTs: 38 *vs*. ST: 109) because before expressing a concept, the speaker of an impromptu speech hesitates while thinking, thereby creating pauses in the sentences (Goldman-Eisler 1972b).

This distribution does not imply that TTs are more fluent in absolute terms – indeed longer pauses are frequent in TTs. An analysis of pause positions was conducted in an attempt to see what interpreters do to make a ST with several disfluencies more manageable. The present study cannot draw hard and fast conclusions because the number of TTs is too small and some interpreters reacted differently. However, the overall impression is that the interpreters introduced pauses in line with the semantic and prosodic segmentation and produced fewer vocalised hesitations than the speaker.

– *Intonation*: the six interpreters produced on average fewer tone units (715) than the original speaker (840). Segmentation in tone units helps interpreters to lend their own rhythm to the interpretation and not always duplicate the original semantic and syntactic structure (Voghera 1992, Cruttenden 1986). Often interpreters break a tone unit when information is not complete, so as to save memory without risking the loss or omission of a segment. Ahrens' study found more tone units in the TTs than in the ST. The present study did not obtain the same result. The average length of a tone unit is shorter than those in the ST (TTs: 3.8 words *vs*. ST: 4.6 words). The nature of the ST may be said to lie behind this phenomenon. The speech is impromptu and linguistically spontaneous, and has fluctuating speed and several hesitations – all factors leading to the production of many tone units. Moreover TTs have longer analysis pauses produced by the interpreters to understand the ST and deliver it in a better, if pithier, fashion.

As well as the number of tone units, the related boundary tones were detected and calculated. The interpreters' intonation was found to be rich in *level boundary tones* (TTs: 63% *vs*. ST: 33%), that is to say an inconclusive intonation caused by the fact that interpreters do not produce the content and have to wait for new material (see 1.2). Shlesinger (1994: 234) asserts: "that interpretation has an intonation all its own is intuitively apparent to anyone using this medium". The results confirm her theories, as already done by Ahrens (2004). The *rising boundary tones*, often related to SI, were not found so often in TTs (8%). The interpreters probably neglected intonation because they suffered a great cognitive burden from the ST used in the study, confirming that an impromptu speech as a ST is not always easy – in fact it is a challenge for the interpreter (see 1.2). However, instead of producing false rising boundary tones, the interpreters delivered more level boundary tones, not attributing the right intonation, yet not completely misleading the audience. The speaker himself produced several incorrect rising boundary tones (about 17%), showing that a speech not planned in advance involves many simultaneous cognitive actions which might undermine its suprasegmental features. Level boundary tones increased in number towards the end of the speech, confirming that long interpretation leads to fatigue, and in such cases interpreters tend to neglect intonation in particular, and prosody in general. *Falling boundary*

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tones were, as expected, more often detected in the ST (50%) than in the average TTs (29%) since they are conclusive and can be easily produced by the speaker, who decides the content of the speech.

In order to conduct the intonation analysis, the texts were also segmented into information units (see 2.6 and figure 2, page 85). There were fewer such units in the TTs because the interpreters often summed up or omitted redundant sentences typical of impromptu speeches. The German-Italian pair also forces interpreters to anticipate the verb and therefore produce different information units. Goldman-Eisler's theory (1972b/2002) according to which interpreters independently segment their speech due also to SI-related constraints was therefore confirmed.

– *Prominence*: the number of particularly stressed words was calculated. Ahrens' study showed a higher number of stresses in TTs because the author counted the number of tonics, one for each tone unit, which were more numerous in the TTs than in the ST. In contrast, the present study aimed to pinpoint a more overt emphasis on words to detect strangely stressed words. These would be immediately perceptible at a first listening, whereas the tonic syllables were detected after more careful listening. TTs were found to be more stressed than the ST: 218 words on average versus 187 words in the ST. The interpreters (numbers 2 and 4) who showed SI-typical features (level intonation, syllable lengthening) also stressed words more often, indicating that the SI-caused cognitive burden frequently undermines the suprasegmental level. In order to be sure that the TL audience understands the TT, interpreters sometimes assume that TL audience has less general knowledge, even if often the contrary is true, and interpret bearing in mind this consideration – intonation and emphasis on words are obviously sound techniques for this purpose (Kalina 1998 in Ahrens 2004: 197). Then the words usually stressed and those usually unstressed according to Cruttenden's (1986) classification (see 2.6) were calculated. It was found that 85% of the words stressed by the interpreters belonged to the categories usually stressed in normal speech, showing that the six interpreters emphasised the words in a targeted way. Paradoxically the speaker stressed slightly more words usually unstressed than the interpreters (16% versus 15%), ostensibly because of the great effort made in producing an impromptu speech with such information density. But after a second listening the single words usually unstressed but emphasised by the speaker were analysed and found to have been stressed ad hoc by the author at crucial points (especially personal pronouns and negation). The same does not apply to the 15% of words incorrectly stressed by the interpreters: they were the result of difficult sentences or general spontaneity of planning.

4.   Conclusions

The aim of the present study was to perform an analysis of various prosodic features in interpreted texts, not only a single feature as usually carried out in SI literature (i.e.: pauses by Goldman-Eisler, speech rate by Gerver etc.).

The interpreters who participated in the study were all professional SI inter-preters, chosen because their expertise involves a more conscious use of prosodic features. Having German mainly as a "B" or "C" language (only one listed with German as "A" language) and their differing levels of experience might have in-fluenced variations in the delivery.

The speech rate was confirmed as being lower in TTs than in ST, partly because the interpreters had to wait for new material and also as a result of the applica-tion of SI strategies, i.e. condensation, segmentation and reformulation, which led them to produce a lower number of words.

Fewer pauses were found in the TTs yet their duration was greater than in the ST, confirming Ahrens' theories according to which pauses in TTs have anal-ysis functions. Therefore they might be fewer than those appearing in the ST, but their greater duration shows the interpreter's processing phase taking place while they are produced.

The presence of a high number of level boundary tones verified that interpret-ers' intonation is unnatural (Ahrens 2004, Shlesinger 1994). The deterioration of intonation is inherent to SI because of the difficulty of distributing cognitive re-sources and may come to the fore even more in the German-Italian combination where anticipation is crucial but not always successful or feasible.

In opposition to the general theory that interpreters stress usually unstressed words, the study showed that the six interpreters mainly emphasised normally stressed words (i.e. subjects, verbs etc.) in order to facilitate TT comprehension.

Moreover the study underlined that interpreters who made fewer pauses produced more syllable lengthening: it might indeed be considered as a *prosod-ic strategy* showing how interpreters deliberately use their voices to overcome SI-related obstacles.

The above-mentioned examples of word stressing and syllable lengthening used as strategies show the crucial role of expertise in the interpreting profes-sion. Interpreting is a multifaceted profession and expertise greatly contributes to refining all single aspects (i.e. language knowledge, technique, cultural knowl-edge, etc.) thereby leading to high-quality performances.

The text interpreted for the study is an example of impromptu speech, which should be easier to interpret as stated in SI literature (see 1.2). The difficulty of the ST used for the study and its excessive orality (see 2.2) suggested that definitive theories cannot be put forward, since spontaneous speeches full of hesitations, dangling sentences etc. can be extremely difficult to interpret.

The general overview obtained by the analysis of all prosodic parameters, which corresponded to Ahrens' and Shlesinger's results, suggests that universals of SI prosody might be found, irrespective of language combination.

The present study is only an initial attempt to analyse SI prosody of Italian interpreters – it would be interesting to enlarge the sample of interpreters and integrate the study with software-based analysis in order to obtain more com-prehensive results. Researching prosody in SI could lead to a definition of pros-ody-related strategies from which *would-be interpreters* could surely benefit while building their interpretation skills.

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Simultaneous Interpreting from German into Italian: the Importance of Preparation on a Selection of Cultural Items

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Abstract

According to the AIIC, the forwarding of preparation material to interpreters prior to simultaneous interpreting (SI) is a contractual term, as it enables interpreters to fully harness their expertise and provide a better service. Yet, despite being largely acknowledged as a fundamental support tool and a helpful resource by professional interpreters and students alike, preparation has been the subject of a limited number of experimental studies. This study aims to examine the importance of preparation for the SI of speeches including a number of cultural items, in order to both underline the importance of previous knowledge for achieving a higher level of proficiency in SI and to raise awareness in speakers and event managers about the need to provide interpreters with all the relevant documents.

Introduction

When confronted with the question "Is preparation in SI useful?" most interpreters (professionals and students) will instinctively and promptly answer in the affirmative. Perhaps it is because of the intuitive nature of this answer that a limited number of studies have been carried out to date on the importance of preparation in SI.

Experts in SI have asserted that knowledge of the SI context enables the interpreter to activate relevant mental frames or schemes, which help to anticipate the content of the Source Text (ST) and overcome difficult passages (Palazzi 1990, Kalina 1998, Riccardi 2001). Moreover, adequate preparation influences comprehension, translation and production processes, therefore it can be considered a

strategy in SI (Kalina 1998). Since the ability to combine strategies flexibly and correctly is considered a hallmark of expertise (Riccardi 1998), investigating the way preparation influences SI could represent a contribution for defining the concept of expertise itself.

The aim of this study is to examine whether preparation influences the SI of speeches with quite a high density of cultural-specific items (*realia* or *cultural items*), which, like technical terms (Gile 1984), are not always easily inferred based on the context alone, thereby leading to disruptions in the interpreter's output during SI.

Cultural-specific terms have been defined as

> [...] words and combinations of words denoting objects and concepts characteristic of the way of life, the culture, the social and historical development of one nation and alien to another. (Florin 1993: 123)

For this purpose, a number of interpreters (both students and professionals) were asked to simultaneously interpret two STs on similar topics from German into Italian, both including several cultural items. Relevant preparation was introduced as a variable and was provided to a group of interpreters beforehand.

1. Strategies, creativity and intercultural aspects in SI
1.1. SI as a strategic and creative process

Despite a number of shared features, the setting and conditions of SI lead to message comprehension and elaboration processes that are unlike those of monolingual interaction. Both types of processes are dynamic and share two main comprehension strategies: "knowledge-driven" strategies (based on context and selection and implementation of encyclopaedic knowledge) and "data-driven" strategies (based on information provided by ST words and syntax). According to such strategies, the information processing direction can be either top-down or bottom-up (van Dijk and Kintsch 1983: 4, 84, 154, 205, 351).

At the beginning of SI, due to the difficulty in predicting how the ST will develop, interpreters need to select and process relevant information. To this end, they tend to rely more on morphological and syntactical elements, i.e. using more bottom-up information at first (Riccardi and Snelling 1997: 144). The use of strategies then unfolds in a specific manner during SI, with top-down strategies being integrated later due to the interaction of the interpreter's knowledge with linguistic data.

SI differs from monolingual communication as the latter is made possible by similar cultural and language knowledge shared by participants (Kalina 1998: 102-113), whereas interpreters often suffer from an "information deficit" (especially during technical SI), as they do not possess an equal share of the specific and lexical knowledge of participants.

Such differences, together with the simultaneous nature of SI processes, require interpreters to adopt specific strategies in order to build a mental model (or scheme) of the ST, starting from its superficial and initial traits (i.e. combining top-down and bottom-up processes). Strategic processes have been defined

as "*intentional auf die Erreichung eines bestimmten Ziels ausgerichtet*" (Kohn 1990: 110), i.e. intentional processes based upon cognitive experience aimed at overcoming an obstacle and saving cognitive resources.

Kalina (1998: 115) divides strategies in SI into two main categories: strategies for ST comprehension and strategies for TT (Target Text) production. Only the former will be closely examined here, as they pertain to the subject of this paper.

In order to fill the "information gap" separating interpreters and primary participants, the former adopt strategies aiming to harness any available knowledge in order to understand the ST (*Wissensaktivierung*) (Kalina 1998: 115). This group of strategies includes preparation (e.g. collecting information about the SI context, analysing similar texts, drafting glossaries etc.) and inferences. The latter help overcome knowledge gaps caused by implicit information included in the ST and/or poor audio input quality and enable the interpreter to formulate hypothesis about how the ST will develop, thereby anticipating what will come next.

In his analysis of cognitive processes underlying expertise, Reason (1990: 43) identified two categories of strategies applied by humans when confronted with problems: *skill-based* and *knowledge-based* strategies. Riccardi (1998: 174) linked this classification to SI and inferred that the former are based upon the interpreters' abilities and development of automatic mechanisms, which enable them to save cognitive resources, whereas the latter are based upon previous knowledge and require extra cognitive effort. When combined, they help interpreters use and structure their encyclopaedic knowledge in order to create a frame of mind for the ST by making balanced use of cognitive resources while creatively adapting such frames or schemes to the ST. SI thus becomes a creative process during which the interpreter combines and connects linguistic and extra-linguistic information to find appropriate solutions by keeping the cognitive burden at an acceptable level.

1.2.   SI as an interlinguistic and intercultural activity

Since the context of SI is a one-time event and as such the interpreter makes linguistic choices based upon relevant elements, SI cannot be examined without considering the context in which it takes place (Riccardi 2001: 88). In order to make such choices, being familiar with the event helps the interpreter activate the relevant mental schemes to understand the ST. As already anticipated, preparation is required beforehand for the schemes to be applied, and this can be strengthened and enhanced during the event.

Pöchhacker (1994: 46) also points out that by being familiar with the event, the interpreter can become more aware of the aim of the conference, the participants and the real target of the SI (audience and target do not always coincide, e.g. during press conferences).

SI can also be considered a service provided in order to enable mutual comprehension and satisfaction of the speaker's and audience's communication needs (Viezzi 1996: 42). To correctly express the communication aims of the speaker and to enable the listener to understand them, the interpreter must be aware of what the speaker's objectives are – and, once again, preparation can be a good way to understand and anticipate them.

1.2.1. Cultural items

Since it involves two (or more) languages, SI is unavoidably an intercultural activity; the greater the distance between the cultures of the ST and the TT, the greater the effort the interpreter must make to fill in all possible gaps (Viezzi 1996: 63).

Culture-bound terms (together with rhetorical style, norms for social interaction, etc.) constitute cultural elements that the interpreter must be aware of in order to fill the knowledge gap, as his or her aim is to produce a TT that has a similar effect on foreign listeners as it would on listeners belonging to the same cultural community of the speaker.

Culture-bound terms belong to a larger category of cultural items, which also includes proper nouns, names of institutions and geographical names. Since cultural items differ according to culture, they may represent an obstacle in SI, requiring the interpreter to acknowledge and fill possible information gaps by adapting the cultural item to the target culture. Moreover, according to Viezzi (1996), such gaps can also include an additional, connotative meaning that the cultural items may have acquired in a given culture:

> [...] possono assumere uno specifico valore culturale [...] nella misura in cui in una o più comunità essi sono contraddistinti da un valore connotativo accanto a quello denotativo; nella misura, cioè, in cui non hanno esclusivamente un valore referenziale, ma implicano qualcosa di più. Sono associati ad eventi specifici, determinano una qualche risposta emotiva: [...] (Viezzi 1996: 65)

Proper nouns make up a specific group of cultural items which often recur in SI and may well be a hindrance, as pointed out by Gile (1984: 79). They can either be simple ("*noms propres simples*", identifying a person, a place or an object) or composed ("*noms propres composés*", made up of a number of words). Irrespective of their nature, they require the interpreter to adopt specific strategies in order to overcome such obstacles and to achieve three main aims: giving the audience the same complete information, limiting any loss of information and saving cognitive resources.

2.   The importance of preparation in SI

One of the main reasons most interpreters agree that adequate preparation facilitates and improves SI is that it enables them to identify a specific number of possible topics, thereby activating relevant mental frames. As Taylor states (1990: 25):

> [...] studying a subject prior to listening to it (and in our specific case prior to interpreting it) makes that listener better able to process and understand the discourse he hears. [...] The gradual absorption of general world knowledge and the specific absorption of temporary information when required will help to [...] render the interpreter's inferential processing times, understanding and consequent performance that much more effective.

If the interpreter's preparation is not adequate, he will have to integrate his knowledge during the event itself, with an increased cognitive effort during the SI (Riccardi 2001: 91).

The interpreter's preparation can be either general or task specific. According to Snelling (2009), all interpreters should be provided with general linguistic and cultural knowledge of the language pairs; a diversified knowledge of the specific event type requiring SI is, however, equally important (Palazzi 1990). Depending on the nature of the conference, the interpreter may, therefore, be provided with dossiers or documents before or during the event, and may have the opportunity to discuss problems directly or ask the speakers questions during an introductory briefing organised for this purpose.

According to Riccardi (2001: 92), knowledge about the event framework can be improved by acquiring information about five basic aspects: first, the topic, which helps identify a limited number of subjects of the speech and creates expectations in the public. Second, the speaker, as communication aims and rhetorical style are closely linked. Third, the audience, depending on whom the interpreter may be required to make implicit information in the ST explicit and adapt the TT. Fourth, the ST, as written speeches and off-the-cuff discourse have very different prosodic features. Finally, the languages involved, as they include both language and cultural information.

A further aspect was identified by Gile (1989) and Pöchhacker (1994: 52): the "conference type". The event can be considered as a "hypertext", including all contributions by different speakers, featuring a number of characteristics: structure, density of information, visual material shown during the conference etc.

2.1. Preparation as a variable in SI experimental studies

Anderson (1979) carried out three experimental studies in order to study both the cognitive and linguistic aspects of interpretation and to further investigate the parameters involved in SI and the conditions underlying the process. Two of these studies were aimed at observing the contextual conditions and the environment surrounding the performance of SI: one was aimed at ascertaining if the visual context has any effect on SI, while the other aimed to verify whether prior information about the context or the content of the speech to be interpreted makes any difference to the interpreting process. The latter study involved 12 professional simultaneous interpreters with a minimum of 5 years' experience; all of them were given the possibility to perform a warm up SI. The input material was taken from videotape recordings.

The interpreters were split into three groups, and each group was provided with a different level of preparation (or none): the first group was given a written copy of the speech shortly before the SI; the second group received a summary of the speech introducing the context, while the third group had no preparation at all. Anderson analysed two main aspects of the TT, namely intelligibility and information content, by means of the two scales assessing intelligibility and informativeness developed by Carroll (1966) (not specifically for SI).

The results did not show any statistically significant influence of preparation on the SI as interpreters with different levels of preparation achieved similar results. According to Anderson, the study could have been affected by three main weaknesses: high variability in the test subjects (the only parameter was five years or more of experience), different degrees of difficulty of a number of passages of the ST, and the interpreters being used to interpreting "from scratch", without being provided with any preparatory material beforehand.

Anderson (1979: 109) then suggested that the nature of the STs themselves used in the study may have influenced the results, as the speech dealt with general topics and did not contain any specific scientific or technical terms.

Kalina (1998: 114, 202) affirmed that scientific conferences require the interpreters to be provided with specific material a number of days before the event. As a result, preparation becomes both a way to fill the knowledge gap between the interpreter and the audience and to prevent incorrect interpretation, as well as a strategy to take correct lexical and syntactic decisions, to adapt the rhetorical style and to support skill-based strategies.

The aim of SI is to convey what is being said; therefore one could claim that the ST alone should be enough for the interpreter to produce a TT. However, the interpreter must start producing the TT without having listened to the whole text. "External" knowledge may then help fill this gap by supporting the comprehension process, i.e. helping the interpreter to understand what is being said more readily.

This hypothesis is supported by the study carried out by Kalina (1998: 202) on the *Würzburg-Korpus*, i.e. a collection of data (recordings of SI by professionals and surveys) gathered during the foundation symposium of the Association for European Criminal Law, which took place in Würzburg, and during the experimental study organised two years later at the University of Heidelberg: a "replay" of the Würzburg conference during which the speeches were interpreted by SI students. The results were then compared and analysed.

The preparation strategies adopted by one professional interpreter and five SI students were analysed. The materials collected by the interpreters for the task were analysed and the interpreters were asked a number of questions about their preparatory process (start time, type, duration of preparation, use of the material collected in the booth, preparation during the event, etc.).

The study then focused on the recordings of the SI of six speeches whose transcripts were available and were given to the interpreters beforehand, and on the notes the interpreters had made on the transcripts themselves.

The study resulted in a number of findings: first, it was observed that preparation was linked to the anticipation strategy on the one hand, but led to an increase in the use of word-by-word interpreting on the other (i.e. the process was more semantically-oriented) (Kalina, 1998: 203). Secondly, the study highlighted that the professional interpreter reacted more promptly than the students whenever the speaker "deviated" from the written text. Thirdly, as preparation interacts with other strategies and influences them (i.e. segmentation and anticipation), it contributes to saving cognitive resources. Basic cognitive processes are thus "moved" to the phase preceding the SI, which means the cognitive burden on interpreters during SI is "lighter".

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3. Experimental study

Intercultural communication is a process including a wide variety of factors, which go well beyond the purely linguistic aspects (Spencer-Oatey 2008: 2). The concept of culture is one which is intuitive yet hard to define (Žegarac 2008: 49), as it includes both physical and abstract objects. However, in order to focus our investigation on a selection of countable and easily identifiable items which could work as a litmus test to check the influence of preparation, in addition to giving the experimental study as defined a structure and scope as possible in order to allow it to be replicated, if required, we deliberately selected only a few categories of culturally connoted items. This choice was primarily to narrow down the topics for the study by concentrating on a small number of representative items, and secondarily to continue the exploration of a research field already examined by other scholars (Gile: 1984).

Moving from Anderson's study of the relevance of prior information in SI and from Kalina's study of the *Würzburg-Korpus* and her findings concerning preparation, an experimental study was carried out in 2011 at the SSLMIT in Trieste within the framework of the author's unpublished thesis.

The study aimed at a further examination of several aspects with respect to the studies mentioned above. The main weaknesses of Anderson's study were the nature of the ST (general greetings) and the short time the interpreters had to prepare for the SI (they were given the material shortly beforehand). As for Kalina's study, the number of SIs analysed was quite small (five SI students and one professional interpreter).

Before carrying out the experimental study described in this article, the author decided to choose recordings of speeches including topics over and above formal greetings (i.e. with a higher informational content), to provide the interpreters involved with the preparatory material one week before recording the SIs, and to recruit a slightly larger sample of interpreters. Unlike Anderson's and Kalina's studies, no transcripts of the speeches were provided to the interpreters beforehand, thus creating a rather different context (the effects of the availability of a transcript of the speech to be interpreted were not tested). In this respect, the study clearly differs from those of Anderson and Kalina, as it focuses on the forms of preparation an interpreter can undertake starting from general references (names of speakers, topic, general context etc.).

3.1. Method

The study was mainly centred on the observation of SI students, i.e. novices. Differences in TTs were analysed according to the different levels of preliminary preparation of the (SI) students. Though it was not considered a variable *per se*, a warm up SI was carried out by all participants and its incidence with respect to preparation was later observed.

Two professional interpreters were also involved in the experimental study, and their results were used by way of comparison. The sample size for these professionals is certainly quite small, and it was not meant to be introduced as a control group

in the study. Nonetheless their participation was the only way to observe whether preparation affects the performance and final product of SI students in terms of making it more "professional"-like. By gaining an insight into how experienced interpreters deal with cultural items, it was possible to observe possible analogies and differences with the approach taken by the students. In this sense, this study can be considered a pilot study that helped outline a number of trends, which could be verified in future research investigating the expert / novice paradigm.

3.2. Materials

The experimental material consisted of two speeches of equal duration delivered in German by two different speakers during the same event. All participants were asked to simultaneously interpret both STs into Italian, with a break of about five minutes between the two. The first ST was considered a warm up speech.

The STs chosen were two speeches by German politicians given on 9 November 2010 during the same event, the *Europa Rede* in Berlin, a yearly conference aiming to offer a discussion platform for influential politicians of all parties. The speeches are similar in content and include similar cultural items (mostly connected with German and European history), though the second speech features a higher density of cultural-bound terms (first speech: 36 recurrences of cultural items out of 1,660 words; second speech: 82 recurrences of cultural items out of 1,394 words). The keynote speech of the event was given by Herman van Rompuy; the two STs adopted for the study were given as an introduction.

The first speech lasted 12' 24" and was "traditionally" structured: the speaker first greeted and thanked the participants, then recalled historic events connected to the day before moving on to current aspects of European politics. Due to its clear structure and to the smaller number of cultural items included, this speech was assigned as a "warm up function". The second speech lasted 12' 28" and featured an original, "non-standard" structure, as it began directly *in medias res*. The speaker briefly thanked the most important participants before immediately dwelling on historical events connected to the 9th of November. He then welcomed the most famous participants, giving their names and posts held, and finally related a short anecdote about a famous European politician.

Both STs were only available as audio inputs.

3.3. Participants

The experimental study included eight interpretation students who had successfully completed their first and second year exams of German to Italian SI. Seven of the eight students had also passed their final exams at SSLMIT – Trieste. Two students were native German speakers, two students had German as their B language and four students had German as their C language.

As mentioned above, two professional interpreters were included in the study in order to investigate possible trends and analogies between preparation

and professional results. Both have extensive experience in SI and are accredited AIIC members.

3.4. Preparation

In order to assess the importance of preparation in SI, students were divided into two groups. One group was provided with the opportunity to prepare for the SI in order to create a context similar to real life. All the members in this group were provided with the same Word® file with general information on the context one week before interpreting. The same document was handed out to the group "without preparation" and to the professionals a few minutes before interpreting. All subjects of the study were given a list of the participants at the event quoted by the speaker in alphabetical order before going into the booth.

The preparation hand-out included the subject of the event, its title and the day on which it took place, the names of the foundations which organised the conference, a description of the speakers and the name of the keynote speaker, in addition to a short reference to the 9th of November (a crucial date in German history, as the "Night of Broken Glass/Kristallnacht Pogrom" and the Fall of the Berlin Wall took place on this date).

3.5. Procedure

All SIs were carried out between February and May 2011 at the SSLMIT of the University of Trieste. The TTs of the participants were recorded on different days. All the booths were provided with Philips equipment, and the TTs were recorded with a Microtrack 24/96 M-AUDIO digital double-track recorder (DAT) and saved on a SanDisk Compact Flash® memory card. The TTs were then converted to MP3 format in order to transcribe them.

All the participants had a pen and paper in order to take notes during the SI. After simultaneously interpreting the two STs, all participants were asked to fill in a questionnaire designed to investigate whether they found the preparation (for those who had the opportunity to prepare for the SI) and warm up SI useful and if they perceived cultural items as possible hindrances.

Five types of recurring cultural items were identified: proper nouns/posts held, toponyms, dates, events and institutions. One or more possible translations of the elements were identified in *ad-hoc* charts (i.e. possible ways to transfer the original meaning of the item to the target language) and the time in which the element appeared in the ST was noted.

An orthographic transcription of the TTs was carried out to enable comparison of the results. All cultural items of the STs were inserted in tables including the type of cultural item and the time the item was quoted in the ST and in the TT. Such terms (or their absence) were then identified in the TTs together with the strategy adopted to deliver them by means of comparison with their possible previously formulated translations. The results were included in the tables which were then divided according to speech, whether or not preparation was allowed, and professional status.

	Proper nouns / posts held	Toponyms	Dates	Events	Institutions
First speech	20	2	6	5	3
Second speech	45	5	19	7	6

Table 1. Types and numbers of cultural items analyzed in both speeches.

3.6. Results
3.6.1. Strategies adopted

All the interpreters dealt with the submitted cultural items in three main ways: they included the cultural items in their TTs, they made a mistake in delivering it, or they did not deliver the item at all.

In order to compare the results of the study, the strategies adopted to deliver the cultural items were identified based on an *ad hoc* classification (see table 1), as names and definitions were taken and adapted both from Kalina (1998) and Pedersen (2007).
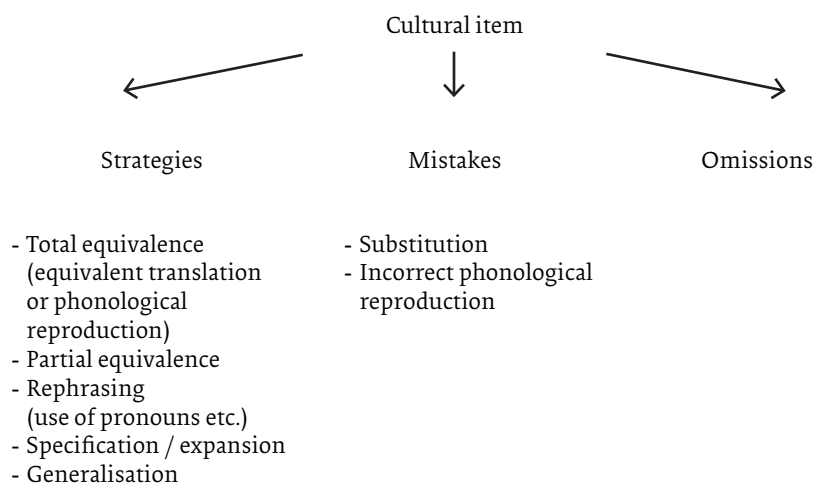
Cultural item

Strategies   Mistakes   Omissions

- Total equivalence
  (equivalent translation
  or phonological
  reproduction)
- Partial equivalence
- Rephrasing
  (use of pronouns etc.)
- Specification / expansion
- Generalisation

- Substitution
- Incorrect phonological
  reproduction

Table 2. Different ways the cultural items were (not) rendered in the target language by the interpreters

a) Total equivalence
The subjects provided an equivalent translation for the item, i.e. the cultural item was fully translated or transferred to the TT by conveying the complete original information.

This tactic was applied by the interpreters in two main ways: first, through transcoding (see Kalina 1998: 118), i.e. by repeating full proper names correctly,

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by using a standard translation or "official equivalent" of the item, which Pedersen (2007: 4) describes as follows:

> For there to be an Official Equivalent, some sort of official decision by people in authority over an extra-linguistic Culture-bound reference is needed [...] (Pedersen, 2007: 4)

Ex. 1
ST: [...] und dafür möchte ich **Herman Van Rompuy** ganz herzlich danken
[and therefore I would like to thank Herman Van Rompuy for this]
TT: [...] e quindi vorrei ringraziare **Herman van Rompuy** [...]
[and therefore I would like to thank Herman van Rompuy]

Ex. 2
ST: [...] der erste ständige **Präsident des Europäischen Rates**
[the first permanent President of the European Council]
TT: [...] il primo **Presidente** permanente **del Consiglio Europeo** [...]
[the first permanent President of the European Council]

Ex. 3
ST: [...] der **Fall des Eisernen Vorhangs**
[the fall of the Iron Curtain]
TT: [...] la **caduta della Cortina di Ferro** [...]
[the fall of the Iron Curtain]

Secondly, by opting for a phonological reproduction (*retention*) of the items (when understandable by an Italian audience). According to Pedersen (2007: 4), retention is the most ST-oriented strategy, as it allows an element in the SL to "enter" the TL (e.g.: *Bundestag*).

Ex. 4
ST: [...] Herr Präsident des deutschen **Bundestages** lieber Norbert Lammert [...]
[President of the German Bundestag, honourable Norbert Lammert]
TT: [...] presidente del **Bundestag** tedesco caro Norbert Lammert [...]
[President of the German Bundestag dear Norbert Lammert]

b) Partial equivalence
The subjects omitted one or more redundant elements without changing the information content of the item (e.g. the shortened version of years).

Ex. 5
ST: [...] auch der neunte november **neunzehnneunundachtzig** [...]
[Also the ninth of November nineteen-eighty-nine]
TT: [...] il nove novembre dell'**ottantanove** [...]
[the ninth of November eighty-nine]

c) Rephrasing

The participants obtained an equivalent translation by using pronouns and other semantic elements, or by changing the order of the elements in the TT (e.g. saying "him" instead of full name).

Ex. 6
ST: [...] Hans-Gert Pöttering wäre nicht **Hans-Gert Pöttering** wenn [...]
[Hans-Gert Pöttering would not be Hans-Gert Pöttering if]
TT: [...] Hans-Gert Pöttering non sarebbe **lui** se [...]
[Hans-Gert Pöttering would not be himself if]

d) Specification

The participants added information that was not included in the ST, further specifying the cultural item. This strategy is defined by Kalina (1998: 119) as "*Expansion*".

Ex. 7
ST: [...] der **Mauerfall** [...]
[the fall of the wall]
TT: [...] la **caduta del muro di Berlino** [...]
[the fall of the Berlin wall]

e) Generalisation

The subjects substituted a cultural item with a more general one (e.g. "*der Historiker Heinrich August Winkler*" delivered as "an important historian").

Ex. 8
ST: [...] der **Historiker Heinrich August Winkler** [...]
[the historian Heinrich August Winkler]
TT: [...] uno **storico molto importante** [...]
[a very important historian]

Furthermore, two kinds of mistakes were identified in the TTs:

f) Substitution

The interpreter removed the cultural item and substituted it with an incorrect one due to an error in comprehension or translation, thereby changing the information conveyed by the ST.

Ex. 9
ST: [...] als **Haushaltsminister** [...] trug er entscheidend [...]
[as Minister for the Budget he contributed in a decisive way to]
TT: [...] <da **ministro degli esteri** ha contribuito> [...]
[as Minister for Foreign Affairs he contributed to]

g) Incorrect phonological reproduction

Incorrect pronunciation of a name (where a completely different name was invented), thereby causing the loss of the relevant information and the transfer of different information to that originally provided.

> Ex. 10
> **ST:** [...] Kardinal **Geoff Sterzinsky** [...]
> *[Cardinal Geoff Sterzinsky]*
> **TT:** [...] cardinale **Geoff Sterzing** [...]
> *[Cardinal Geoff Sterzing]*

A third macro category was identified, i.e. omissions. As Kalina (1998: 120) points out, omissions can be either strategic or non-strategic. The former are a way for the interpreter to "filter" and carry out a selection of the essential elements of the ST, especially if some of them are redundant. The latter involves the loss of information. Since no strategic omission was identified in the TTs representing the subject of this study, only non-strategic omissions have been examined.

> Ex. 11
> **ST:** [...] heute vor zweiundsiebzig Jahren fand in der Reichspogromnacht das dunkeste, das unfassbare und unbegreifbare Kapitel der deutschen Geschichte [...]
> *[seventy-two years ago the Reich's Pogrom Night was the darkest, the incomprehensible, inconceivable chapter of German history]*
> **TT:** [...] il nove novembre è anche un una giornata di (.) ricordo (.) perché si è tenuta il (.) si è tenuto il capitolo più buio della storia tedesca [...]
> *[the ninth of November is also a significant day, as on this date the darkest chapter of German history took place]*

3.7. Students' performance

All the data collected was divided into the five categories of cultural items identified in the STs. These were then classified according to how the elements were delivered by comparing them with an *ad-hoc* chart of previously identified possible translations and, finally, according to the presence or absence of preparation. Lastly, this scheme was also used to compare the results of SI students with those of the professionals[1]. The aim of the analysis was both to show the main trends in the two groups of students (with and without preparation) and to compare the TTs of the first (warm up) speech with those of the second ("official") speech.

The results were converted into percentages in order to enable clearer comparison. The most relevant results from the students are described below; the

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1   All detailed tables and charts concerning the analysis of the STs and the results of the study can be found in the author's unpublished dissertation (Scaglioni 2011).

results from the professionals are not fully represented here, however, they will be mentioned in the following section.

Students given the opportunity to prepare for the SI are identified with the abbreviation "*SP*" (students with preparation) and students who did not prepare for the interpretation are identified with the abbreviation "*SWP*" (students without preparation).

a) Proper nouns and posts held

When interpreting this category of cultural items during the warm up speech, *SWP* adopted total or partial equivalencies in 51% of cases, whereas they adopted rephrasing in 5%, generalisation in 1%, and specification in 8% of cases.

Omissions, incorrect phonological reproduction and substitution made up 35% of total deliveries.

In interpreting the second speech, the total number of total and partial equivalencies increased (67%), whereas the number of omissions and errors decreased (22%). However, strategies such as rephrasing and specification were less frequently adopted by the students (11% overall).

In terms of the TTs by the *SP* for the first speech, the students found a total (54%) or partial (23%) equivalent for proper nouns / posts held, and omitted or gave a phonetically incorrect equivalent in 18% of cases. As for the use of strategies, rephrasing (4%) and specification (3%) were adopted. As for errors, the highest percentage is represented by omissions (15%).

In interpreting the second speech, the *SP* adopted total equivalencies in 64% of cases and resorted to other strategies more often (e.g. specification: 6%). The number of omissions decreased as did the number of phonetically incorrect equivalents (9%).

As far as this category goes, the name and the post of Herman van Rompuy is a good example: it was sometimes omitted or, as regards the name, mispronounced by both groups (though more often by the *SWP*) in the TTs of the first speech, whereas the information was correctly transferred or even the subject of specification in the TTs of the second speech.

> Ex. 12 – SWP; First speech
> **ST:** [...] und ein Europäischer Rat in dem die siebenundzwanzig Staaten [...] zusammen mit dem Kommissionspräsidenten unter der Leitung von **Herman van Rompuy** die Leitlinien der europäischen Entwicklung beschließen [...]
> *[and a European Council in which the twenty-seven states [...] together with the President of the Commission under the guidance of Herman van Rompuy decide the guidelines]*
> **TT:** [...] e un consiglio che insieme ai presidenti della commissione (.) stabilisce [...]
> *[and a council which, together with the presidents of the Commission, decides]*
>
> Ex. 13 – SWP; Second speech
> **ST:** [...] wird gehalten von dem [...] **Präsidenten des Europäischen Rates** [...]

[held by [...] the President of the European Council]
TT: [...] viene tenuto dal **presidente del Consiglio van Rompuy** [...]
[held by the President of the Council van Rompuy]

b) Toponyms

Toponyms only represent a small number of cultural items in both speeches (2 out of 36 in the first speech and 5 out of 82 in the second speech). The names of places quoted were often repeated by the two speakers, and it should be pointed out that the second speech contained a higher number of toponyms which would be less familiar to an Italian audience (e.g. names of museums located in Berlin etc.).

For the first speech, *SWP* resorted to total equivalences in 38% of cases, resorted to rephrasing in 13% of cases and omitted toponyms in 50% of cases. When interpreting the second speech, the number of total equivalencies increased (75%) whereas rephrasing (5%) and omissions (20%) decreased.

SP correctly delivered 100% of toponyms for the first speech, always adopting total equivalencies.

As far as the second speech is concerned, the number of total equivalencies decreased (65%), whereas students resorted to generalisation in 5% of cases. The number of errors also increased (30%).

Despite the relatively minor representativeness of this category, it should be noted that during the SI of the first speech, the *SWP* omitted the name of the German capital city in some cases, whereas it was correctly transferred by the same group in most cases during the SI of the second speech.

Ex. 14 – SWP; First speech
ST: [...] ein Willkommen hier **in dieser schönen Kulisse in Berlin** [...]
[you are warmly welcomed in this beautiful backdrop - Berlin]
TT: [...] vorrei ringraziare Herman van Rompuy [...] sono: lieta che tu sia **qui** oggi con me [...]
[I would like to thank Herman van Rompuy [...] I'm glad that you are here with me today]

Ex. 15 – SWP; Second speech
ST: [...] auf der **Museumsinsel im Herzen Berlins** [...]
[on the Isle of the Museums in the heart of Berlin]
TT: [...] nell'**isola dei musei nel cuore di Berlino** [...]
[on the Isle of the Museums in the heart of Berlin]

c) Dates

The date occurring often in both speeches is the 9th of November, quoted in association with different years (1938, 1989, 2009, 2010, 2011). In a number of cases, this date is connected to a precise historical context probably known to the students; in other cases the dates are linked to recent or future events that may be less well known, and therefore less predictable and requiring a greater cognitive effort.

It should be noted that due to its very nature, this category was often the subject of rephrasing (e.g. "*(Heute) vor 72 Jahren*" became "*in 1938*") and rendered with partial equivalents (e.g. "*Juli 2007*" was delivered as "*2007*" etc.).

When interpreting the first speech, *SWP* adopted total equivalencies in 71% of cases and adopted rephrasing in 4% of cases. 25% of dates were omitted or wrongly transferred. As for the second speech, the number of total equivalencies decreased (54%), yet the participants adopted partial equivalents in 13% of cases and resorted to rephrasing in 8% of cases. Mistakes / omissions again equalled 25% of cases.

SP delivered 75% of dates in the first ST with total equivalencies and resorted to rephrasing in 8% of cases. No other strategies were adopted. Mistakes and errors made up 17% of cases.

When delivering the second speech, *SP* resorted to a wider variety of strategies: total equivalencies made up 68%, partial equivalencies 5% and rephrasing 4%. The participants also adopted generalisation in 3% of cases. The number of mistakes, however, increased (5%); interestingly, "new" and "unpredictable" dates were omitted (14%), i.e. items which were not closely linked to the main topic of the speech and which had probably not been included in the preparation phase.

As stated before, the category "date" is not only the one whose elements were mainly conveyed by partial equivalence or rephrasing, but a number of methods were used to apply these strategies (see examples).

Ex. 16 – SP; Second speech
ST: [...] **am oder um den neunten November** [...]
     [on or around the ninth of November]
TT: [...] i: **il giorno odierno** [...]
     [on the same day as today]

Ex. 17 – SP; Second speech
ST: [...] auch der **neunte November neunzehnneunundachtzig** [...]
     [also the ninth of November nineteen-eighty-nine]
TT: [...] anche il **nove novembre dell'ottantanove** [...]
     [the ninth of November eighty-nine]

Ex. 18 – SP; Second speech
ST: [...] **Heute vor zweiundsiebzig Jahren** [...]
     [seventy-two years ago today]
TT: [...] **nel millenovecentotrentotto** [...]
     [in nineteen thirty-eight]

d) Events
This category best identifies the activation of relevant mental frames by the interpreter, as it is the most closely linked to the context.

It should be pointed out that specifications were often used for the term "*Fall der Mauer*" or "*Mauerfall*", as a number of interpreters specified that the wall quoted was the Berlin Wall.

In the TTs of the first speech, *SWP* adopted total equivalencies in 56% of cases. No other strategies were adopted. Incorrect substitutions made up 31% of cases and omissions accounted for 13%.

The number of total equivalencies increased by 5% in the TTs of the second speech (61%). *SWP* also resorted to rephrasing (2%), specification (5%), and generalisation (5%). The number of mistakes decreased (2%), yet omissions increased by 12% (25%).

During SI of the first text, *SP* resorted to total equivalencies in 44% of cases. They resorted to the strategies of specification (6%) and generalisation (6%), wrongly substituted 25% of items and omitted them in 19% of cases.

As for the second ST, the number of total equivalencies increased (64%) and partial equivalencies were also included (2%). Rephrasing amounted to 7% and specification to 16%. The number of errors and omissions decreased (12%).

Interestingly, the *SP* "scored" better results than the *SWP* when interpreting the events included in the second speech. Such events could have easily been included in thorough preparation.

Ex. 19 – SWP; Second speech
ST: [...] mit ihm verbinden wir [...] **friedliche Revolution und Mauerfall** [...]
[this day is linked to the peaceful revolution, to the fall of the wall]
TT: [...] <a questo giorno associamo> [...] **la caduta del muro di Berlino** [...]
[we associate this day with the fall of the Berlin wall]

Ex. 20 – SP; Second speech
ST: [...] mit ihm verbinden wir **friedliche Revolution und Mauerfall** [...]
[this day is linked to the peaceful revolution, to the fall of the wall]
TT: [...] noi colleghiamo [...] **una rivoluzione pacifica e la caduta del muro** [...]
[we associate this day with a peaceful revolution and the fall of the wall]

Ex. 21 – SWP; Second speech
ST: [...] das **Ende der SED Diktatur der Fall des Eisernen Vorhangs** [...]
[the end of the dictatorship of the SED (Socialist Unity Party), the fall of the Iron curtain]
TT: [...] ha segnato . la **fine . di una dittatura** [...]
[marked the end of a dictatorship]

Ex. 22 – SP; Second speech
ST: [...] das **Ende der SED Diktatur der Fall des Eisernen Vorhangs** [...]
[the end of the dictatorship of the SED (Socialist Unity Party), the fall of the Iron curtain]
TT: [...] **fine della** s **dittatura della SED caduta della Cortina di Ferro** [...]
[the end of the s SED dictatorship, fall of the Iron curtain]

e) Institutions
A limited variety of institutions were mentioned in both speeches: mainly the three foundations promoting the event. Their names were also included in the list given to the interpreters before the interpretation.

For the first speech, *SWP* used a total or partial equivalent in 42% of cases. They rephrased the name of the institution in 25% of cases and resorted to specification (8%). Omissions and errors made up 25% of cases.

The overall number of total and partial equivalencies increased in the TTs of the second speech (67%), whereas rephrasing decreased (4%). Specification amounted again to 8%. In 21% of cases the items were omitted; no mistake was made.

SP used a total equivalent in 17% and a partial equivalent in 42% of cases in the first speech. They adopted rephrasing in 33% and specification in 8% of instances; no error / omission was made.

As far as the second speech was concerned, total equivalencies increased (79%), whereas partial equivalencies decreased (8%). Rephrasing was never used and the amount of specifications remained the same. Omissions increased (4%). It should be underlined that the organisations omitted were not included in the list given to the novices prior to the SI, and that the *SP* achieved better results in conveying this category than *SWP*.

Ex. 23 – SWP; Second speech
ST: [...] die Stiftung Zukunft Berlin, die Robert Bosch Stiftung und wir die Konrad Adenauer Stiftung [...]
[the Zukunft Berlin Foundation, the Robert Bosch Foundation and us, the Konrad Adenauer Foundation]
TT: [...] la Fondazione Futuro di Berlino Zukunft Berlin la fondazione Konrad Adenauer [...]
[the Future of Berlin Zukunft Berlin Foundation the Konrad Adenauer Foundation]

Ex. 24 – SP; Second speech
ST: [...] die Stiftung Zukunft Berlin (.) die Robert Bosch Stiftung und wir die Konrad Adenauer Stiftung [...]
[the Zukunft Berlin Foundation, the Robert Bosch Foundation and us, the Konrad Adenauer Foundation]
TT: [...] la Fondazione Zukunft Berlin (.) la Fondazione Robert Bosch noi la Fondazione Konrad Adenauer [...]
[the Zukunft Berlin Foundation, the Robert Bosch Foundation us the Konrad Adenauer Foundation]

4.   Discussion

Based on the results obtained after analysing the data collected, it is possible to state that cultural items represented an obstacle in SI from German into Italian, even if they were known to the students. Moreover, when confronted with cultural items such as those that are the subject of this study, all interpreters adopted a number of strategies according to their cognitive burden when encountering the elements, knowledge of the item etc. Though only five strategies have been identified in this study, many others can be used to overcome obstacles posed by cultural items.

Furthermore, the findings are corroborated by the results of the questionnaires: all the interpreters agreed that the cultural items in the STs were potential obstacles to a fluent delivery and some of them required additional mental effort. The students who were given preparation agreed on its usefulness and all the interpreters affirmed that the warm up SI played a remarkable role in helping them to familiarise themselves with the topic of the SI and supported the SI process for the second ST.

In addition to confirming the hypothesis underlying the experimental study, the results highlighted three further trends. In order to better compare the results and illustrate the trends observed, the results of the study are summarised in the table below where each category has been divided into further strategies and mistakes/omissions. The table shows the overall outcomes of the study, yet it should be pointed out that the second speech included a higher number of cultural items.

Cultural items analysed	Speech	SWP		SP	
		Items transferred through strategies	Mistakes and omissions	Items transferred through strategies	Mistakes and omissions
1) Proper nouns and posts held	1st	65%	35%	83%[2]	18%
	2nd	78%	22%	88%	12%
2) Toponyms	1st	50%	50%	100%	
	2nd	80%	20%	70%	30%
3) Dates	1st	75%	25%	83%	17%
	2nd	75%	25%	80%	20%
4) Events	1st	56%	44%	56%	44%
	2nd	73%	27%	89%	11%
5) Institutions	1st	75%	25%	100%	
	2nd	79%	21%	96%	4%

Table 3. Overall results of the study

The analysis and comparison of the data obtained from the TTs of *SWP* and *SP* for each category of cultural item, and more specifically the percentages of elements correctly delivered to those for omitted/wrongly delivered items for each category, provide an index of the comprehension of the items itself, and the interpreter's familiarity with the context. The more elements correctly delivered, the better the comprehension of the ST.

By considering the most numerous category (proper nouns / posts held, which make up more than the half of all the cultural items identified in both

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2   The total amount of proper nouns / posts held interpreted by SP during SI of the second speech was 101%, as the percentages have been rounded up for easier comparison of results.

texts), it should be noted that *SP* correctly delivered a higher number of cultural items and made less mistakes / omissions during SI of both speeches compared to *SWP*. *SP* also resorted less often to strategies such as rephrasing, specification and generalisation than *SWP*, as they rendered the item through total equivalencies. Greater familiarity with the names quoted in the speeches for *SP* may have contributed to these results.

The category of toponyms also supports the theory on the usefulness of preparation: *SP* correctly delivered 100% of place names during SI of the first speech.

As for dates and events, *SP* had already developed a higher degree of knowledge of these elements before the SI, whereas *SWP* were not familiar with the context and often resorted to omission. Moreover, as for the category of proper nouns / posts held, *SP* often resorted to total equivalencies. It should be pointed out that *SP* also sometimes adopted the strategy of specification when interpreting events, which could show deeper knowledge of the context and lighter cognitive burden.

Lastly, the category of "institutions" supported the observed trend: more elements were delivered and fewer omissions and mistakes were made by *SP* during the first speech.

To conclude, *SP* not only achieved better results in terms of delivering cultural items, but they also resorted more often to total equivalencies and specification, as they were probably more familiar with the elements and had more cognitive resources at their disposal, thus being able to convey useful information and adapt the TTs for an audience with a different cultural background.

Importance of SI of a warm up speech for SI from German into Italian - In order to observe if the warm up phase has any effect on SI, the results obtained from TTs of the first and second speech were compared. A higher number of cultural item correspondence in the TTs of the second speech may point to greater familiarity with the topics and names included in the ST developed through the SI of a similar warm up speech.

The analysis of proper nouns / posts held shows that both *SWP* and *SP* achieved better results in the SI of the second speech, thereby making fewer mistakes and omissions.

As for toponyms, *SWP* certainly drew advantages from the warm up SI; yet *SP* made more omissions and incorrect substitutions. This could point to a difference in the importance of the warm up SI for the two groups: since it was the only source of relevant knowledge available, the warm up may have allowed *SWP* to achieve a better improvement margin with respect to *SP*. This hypothesis is supported by the results of the "institutions" category: the percentage of correctly translated elements during the second SI decreased slightly for *SP*, whereas it increased for *SWP*.

Dates and events displayed a different trend: *SWP* translated the same number of dates in both speeches, whereas *SP* made more mistakes / omissions during the second SI. As for events, *SP* correctly delivered a higher number of elements during SI of the second speech, whereas *SWP* did the opposite. It should be noted, however, that events and dates were not evenly distributed in the two STs: specifically, the second contained more items than the first. The second

speech included a number of events specific to German history which were not mentioned during the first speech and which were more susceptible to adequate preparation: for *SWP* they might well have represented new and potentially "unexpected" elements.

Finally, the TTs of *SWP* registered a remarkable increase in the total equivalencies during the second speech. Such a trend may indicate both the general usefulness of a warm up SI and its importance in the absence of other specific preparation.

Similarities between SP and professional interpreters - The comparison of the results obtained by *SP* and professional interpreters (who did not receive the preparation hand out), points to a number of similarities. In terms of proper nouns and posts held in the first and second speech, there was an increase in the number of total equivalencies and a decrease in partial equivalencies for both groups. The subjects also resorted less frequently to rephrasing and more often to specification and generalisation.

Moreover, the same similarity is observed in the data collected for the "dates" category: total equivalencies and rephrasing decreased, whereas partial equivalencies and generalisation increased. Lastly, the same characteristic was also found when analysing the rephrasing, errors and omissions percentages for the "events" category.

Such similarities highlighted a further possible trend: data collected from *SP* and from professional interpreters share some similarities from a quantitative - and qualitative standpoint. These trends are not only observed in the number of equivalencies and omissions / errors, but also concern the types of strategies adopted, thereby suggesting that preparation can help SI students develop the processes of selection and application of relevant strategies used by professionals.

5.   Conclusions

This experimental study represented an opportunity to closely verify the importance of preparation in SI, under set circumstances. The results show that preparation helps activate correct mental frames relevant to the topic of the speech, thus enabling anticipation and correct translation of cultural items. Moreover, they revealed a similar trend in the use of a number of strategies by SI students with preparation and by professional interpreters with no preparation.

Preparation can thus be considered an interpretation strategy (Kalina 1998: 116) that students should adopt to achieve a higher level of professionalism by producing more complete and precise TTs. Expert *adaptive* interpreters (Sunnari/ Hild 2010) have been defined as professionals who can simultaneously interpret speeches on different topics effectively by continuing to develop the strategies adopted and improve the output quality. Students of interpretation can profit from this and try to achieve professional results by supporting constant exercise and delivery control through improvement of their general and specific knowledge by means of preparation.

The findings in this study cannot be considered definitive. The study revealed a number of weaknesses that further experimental studies could try to counter,

i.e. the sample of SI students was too small for general conclusions to be drawn, the lack of a "real" control group and the testing of only one possible way for preparing for the SI (autonomous preparation based upon context communicated beforehand). New studies could involve a larger sample of participants, i.e. three equal groups of students and professional interpreters (for professionals to make up a real control group) and a fourth group of students provided with the speech transcript (for a further comparison with the studies by Anderson and Kalina). They could also consider culture from a broader perspective (including other cultural aspects in addition to realia). A further possibility could be to repeat the experimental study by changing the linguistic variable, e.g. by choosing technical speeches to observe if the effects of preparation are even more visible in terms of the information transferred and the personal perceptions of the interpreters.

This experimental study offers a brief view of the gap dividing SI students and professional interpreters as far as SI of STs including cultural items is concerned. A study based on a similar premise could be carried out in order to investigate how experience influences ability, as well as the strategies applied to deal with the SI of cultural items. Such research could contribute to achieving a better understanding of where the gap lies between students and professional interpreters, thereby guiding students for the development of their SI skills.

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Are Interpreting Strategies Teachable? Correlating Trainees' Strategy Use with Trainers' Training in the Consecutive Interpreting Classroom

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Abstract

Since the early 1970s, interpreting strategies have aroused much interest among inter-preting research scholars. Strategies should be recommended as components of interpreter training because they are useful for interpreters to solve or avoid problems resulting from cognitive and language-specific constraints. This paper reports on a small-scale study, in-vestigating if undergraduates' strategy use is positively related to their teachers' inclusion of strategy training in the consecutive interpreting classroom. Forty-one undergraduate trainees and three of their teachers participated in the study. Retrospection was used to collect data on participants' mentioning of strategy use immediately after performing consecutive interpreting from English into Chinese. Questionnaires were administered to elicit data on teachers' inclusion of strategies in class. Data analysis shows that sixteen strategies were used by the students and that those strategies were taught by their teachers. A correlation analysis shows that there is a moderate correlation between student's strate-gy use and their teachers' inclusion of strategy training.

Introduction

Interpreting strategies are important aspects of interpreting expertise. Mode-specific strategies (Kalina 1994a: 221; Agrifoglio 2003: 99), for example, anticipation in simultaneous interpreting, give interpreters advantages to ease the workload caused by mode-specific constraints. Moreover, strategies allow

interpreters to use a minimum amount of processing efforts to reduce the negative effects of cognitive constraints (Riccardi 1998: 174; Gile 2009: 201), for example, high time pressure, extreme speech conditions, and less satisfying working conditions (Setton 1999: 35; Kalina 2002: 126). Furthermore, strategies such as segmentation (Lee 2007: 153), restructuring (Riccardi 1995: 216) and anticipation (Chernov 2004) lower the risk of overloading processing capacity caused by language-specific constraints, and are thus important aspects of expertise for interpreters working between languages that are syntactically different. Additionally, research has shown that expert interpreters' strategy use is different from that of novices (Kalina 1994b: 229; Sunnari 1995: 118), which support the status of strategy use as part of interpreting expertise. Therefore, strategies are crucial for high quality interpreting performance and should be seen as an essential component of interpreting competence (Kalina 2000: 7).

Since the 1970s (see Barik 1971; Goldman-Eisler 1972; Kirchhoff 1976/2002; Wilss 1978), interpreting strategy research has been the interest of many scholars. Past research on strategies concentrates mainly on simultaneous interpreting. Far less attention has been paid to strategies in consecutive interpreting. The relationship between students' use of strategies and strategy training has not received much attention.

Psychological research has proved that a minimum of six months of intensive training in tasks involving divided attention allows human beings to acquire particular procedural skills to carry out overlapping tasks (Hirst *et al*. 1980). Considering that strategies are also procedural skills, it can be hypothesized that training on strategy use enables trainees to apply them in their interpreting practice.

This paper reports on an observational study investigating if students' strategy use and strategy training are positively related. It first reviews the literature, then describes the research methodology, and moves on to analyze the results before presenting the conclusions.

1.   Studies on strategies in interpreting research
1.1   What is an interpreting strategy?

Interpreting strategies are termed differently as "coping tactics" (Gile 2009: 191) or "techniques" (Jones 1998: 101). According to the relevant literature (Kalina 1992: 253; Gile 2009: 191; Bartlomiejczyk 2006: 152), strategies are intentional and goal-oriented procedurals to solve problems resulting from the interpreters' processing capacity limitations or knowledge gap, or to facilitate the interpreter's task and prevent potential problems. The repeated and successful use of strategies leads to automatic activation. It is then that the interpreter is able to overcome the capacity limitations and make good use of available processing capacity (Kohn/Kalina 1996: 132; Riccardi 2005: 758).

1.2 Why are strategies important in conference interpreting?

There are many reasons for strategies to deserve the attention of trainers, practitioners and researchers.

Firstly, interpreting strategy as an important aspect of interpreting expertise should be a crucial component of interpreter education. It is held that "successful repeated use of a specific strategy leads to automation" and that "automated strategic processes reduce the cognitive load of interpreting" (Bartlomiejczyk 2006: 151). Trainers may group strategies into "general interpreting strategies, independent of the language pair used," or "language pair-specific strategies, taking into account solutions imposed by structural and lexical diversities of the languages used" (Riccardi 2005: 765). Then exercises can be devised to help the trainees automatize the use of those strategies before students can use them to overcome constraints in certain interpreting tasks (An 2009: 206; Lee S. 2013: 27). For example, compression should be taught to students to cope with limitations of memory and the time pressure (Viaggio 1992: 51; Dam 1993: 311). Additionally, differences in strategies employed by novice and expert interpreters can be compared and contrasted for pedagogical purposes. Both Kalina (1994b: 229) and Sunnari (1995: 118) confirm that professionals' strategic decisions are different from those of trainees. Experienced interpreters know how and when to use condensing based on macro-processing, while novice interpreters fail to produce a coherent message in the target language. According to Kalina (2000: 7), strategy application is crucial for high quality performance in interpreting and should be treated as an essential component of interpreting competence which serves the basis of pedagogical design.

Secondly, the interpreter has to allocate his or her available processing capacity strategically in interpreting practice to cope with two sources of constraints: cognitive constraints and language-specific constraints. The sources of cognitive constraints include high time pressure, division of attention, extreme speech conditions, and unsatisfying working environment (Setton 1999: 35; Al-Qinai 2002: 310; Kalina 2002: 126; Gile 2009: 192; Li 2010: 19). Such constraints require a lot of processing capacity. In Gile's (2009: 190) words, if the required processing capacity exceeds the interpreter's available processing capacity at a given time in the interpreting process, problems arise. Strategies allow the interpreter to use a minimum amount of processing efforts to get rid of the negative effects of those constraints (Riccardi 1998: 174; Gile 2009: 201; Lee M. 2013: 180). It is found that interpreters resort to a number of strategies that may ease the cognitive burden, improve the pace of delivery, and avoid the accumulation of untranslated information so that their memory and processing capacity will not be overloaded (Al-Qinai 2002: 318; Mizuno 2005: 750; Gile 2009: 190). Language-specific constraints also require the use of interpreting strategies. If the languages involved are syntactically different, the interpreter's processing capacity is more likely to be overloaded. The interpreter has to store larger segments before syntactic disambiguation and restructure the message to comply with the target language rules (Riccardi 1998: 173; An 2009: 188; Liontou 2011: 152). The use of strategies such as anticipation (Lim 2011: 59; Liontou 2012: 230), segmentation (Donato

2003: 129; Lee 2007: 153), and restructuring (Riccardi 1995: 216; Donato 2003: 129) is particularly crucial.

Interpreting mode is an important factor that impacts the use of strategies. Consecutive and simultaneous are performed under different conditions. In Gile's (2009) words, the listening, memory, and note-taking phase is separated from the note-reading and reformulation phase in consecutive. The interpreter is not paced by the speaker. By contrast, in simultaneous, the interpreter is externally paced by the speaker, multitasking between listening, producing and monitoring.

The different mode-specific constraints lead to the use of mode-specific strategies (Kalina 1994a: 221; Agrifoglio 2003: 99). Considering the more demanding working conditions of simultaneous, strategy use is more typical of and crucial in simultaneous than in consecutive (Kalina 2000: 7). In simultaneous, when linguistic and extra-linguistic cues are available, the interpreter may use anticipation; when there is a lack of such cues, the interpreter may resort to segmentation to ease the workload (Riccardi 1998: 179; Seeber/Kerzel 2012: 232). Anticipation, segmentation, and extending or narrowing Ear-Voice-Span are specific to simultaneous. In consecutive, the interpreter may be more likely to use strategies like changing order, addition, and syntactic transformation and so on. Additionally, since both consecutive and simultaneous interpreting may share constraints such as high time pressure, high information density, incomprehensible input and so on, strategies can be used in both modes, for example, inferencing, omission, transcoding, compression, addition, repair, etc.

Thirdly, strategies are of great theoretical value in interpreting research in that they contribute to the description of the interpreting process. Strategies show "which decisions must be taken in a given situation or in view of certain probabilities so as to reach a goal within a behavioral plan" (Kirchhoff 1976/2002: 114). Interpreting can be "analyzed through the strategies applied to achieve the communicative goal" (Riccardi 2005: 753). An understanding of interpreters' use of certain strategies to solve problems reveals about the relations between the original discourse, the interpreted discourse, the possible problems in interpreting, the strategies applied, the interpreter, and the communicative setting. That might be why strategy remains one of the research interests of doctoral projects (Dam 1995; Kalina 1998; Chang 2005; Wang 2008; Liontou 2012).

Most studies on strategies are concerned with simultaneous interpreting. Research on consecutive interpreting strategies is rare. Kohn/Kalina (1996) explore SI and CI from a strategic point of view by means of recording and retrospection data, indicating that real-life interpreting situations do involve a group of specific strategies. Dam (1993, 1995) provides an empirical description of the condensation strategy in Spanish-Danish consecutive interpreting. Hu (2006) discusses the use of adaptation strategies (reduction, addition, etc.) in consecutive interpreting between Chinese and English.

Since the 1990s, the proportion of empirical studies has been on the rise. Some are devoted to individual interpreting strategies like anticipation (Lederer 1978, 1981; Van Besien 1999; Chernov 1992, 2004; Lim 2011; Liontou 2012) and compression (Sunnari 1995; Dam 1996, 1998; Wang 2008). Others investigate

empirically all strategies or a group of strategies used in a given interpreting task (Kohn/Kalina 1996; Donato 2003; Bartlomiejczyk 2006; Liontou 2011). Kalina (1994b) and Sunnari (1995) conclude that professional interpreters are better than student interpreters in terms of strategy use. Donato (2003) and Bartlomiejczyk (2006) confirm that strategy use is related to language pair and working direction of the interpreting task. Snelling (1992) examines simultaneous interpreting as a language pair specific task, exploring the contrast between Romance languages and Germanic languages. Other empirical explorations of interpreting strategies can be found from Kalina (1992), Kohn/Kalina (1996), and Mizuno (2005).

As far as methods are concerned, some discussions on strategies are based on personal theorizing and for pedagogical purpose (Gile 2009; Wu 2001). Some are empirical research by using retrospection (Kohn/Kalina 1996; Bartlomiejczyk 2006), a methodological tradition of psychological research. Others adopt a corpus-based product-oriented approach (Kalina 1998; Donato 2003; Wang 2008; Liontou 2012). Another paradigm is the expert-novice approach (Kalina 1998; Riccardi 2005; Sunnari 1995) which look into differences between experts and novices in terms of their interpreting problems and the different strategies they use.

Literature review reveals that scholars have not reached a consensus on the definitions of strategies. For instance, Kalina's (1998) expansion and Bartlomiejczyk's (2006) addition refers to the same strategy. Another example is the definition of omission. One defines it as: "when the interpreter decides to omit something that has been both heard and understood presumably because he or she assesses the information as redundant, not important, or not transferable due to differences between the SL and TL cultures" (Bartlomiejczyk 2006: 161). The other believes that omission is used when the interpreter encounters "incomprehensible input," "repetitive input," or "lags behind the speaker" (Al-Khanji *et al.* 2000: 553). The two definitions have something in common, but the latter is wider in scope in that it includes the condition of "incomprehensible input."

Additionally, some strategies overlap with others. For example, compression and omission have something in common. Compression happens when the original meaning is rendered by the interpreter in a more general and concise way, deleting what is repetitive or redundant. Omission is used when the interpreter omits incomprehensible input, unnecessarily repetitive, redundant, unimportant, or unacceptable utterances. Therefore, the application of one of them may entail the employment of the other.

Strategy training and the correlation between strategy training and strategy use among student interpreters have not been touched upon yet.

1.3 Strategies in consecutive interpreting and their definitions

More than thirty strategies can be identified in the literature. Only the sixteen strategies relevant to the current study will be discussed in this section.

Since the definition between scholars varies, it is important to define the strategies concerned. Table 1 presents each strategy with its names, definition and relevant authors. One strategy might be named differently by different scholars,

for example, omission, deletion and skipping all referring to the same strategy. Those strategies are not put into broad categories because they are termed differently by different scholars and the boundaries between some of them are not clearly identified. More detailed descriptions about them may be found in the relevant literature.

Strategy names	Definition	Researchers
Compression/ condensation/ summarizing/ filtering	The original meaning is rendered by the interpreter in a more general and concise way, usually with all repetitive, unimportant, or redundant information deleted or omitted.	(Sunnari 1995; Kohn/Kalina 1996; Dam 1996, 1998, 2001; Kalina 1998; Al-Khanji *et al.* 2000; Wu 2001; Al-Salman/ Al-Khanji 2002; Al-Qinai 2002; Donato 2003; Chang 2005; Wang 2008; Bartlomiejczyk 2006; Li 2010; Liontou 2011)
Omission/ skipping/ ellipsis/ message abandonment	The interpreter uses periods of silence and pauses in which certain messages are not interpreted at all due to comprehension, note-reading, or memory failure.	(Barik 1971; Kohn/ Kalina 1996; Kalina 1998; Niska 1998; Al-Khanji *et al.* 2000; Wu 2001; Al-Salmon/ Al-Khanji 2002; Al-Qinai 2002; Donato 2003; Chang 2005; Bartlomiejczyk 2006; Pöchhacker 2007; Gile 2009; An 2009; Lee M. 2013)
Text expansion/ addition/ elaboration	The interpreter adds information or expands the source discourse, so as to better convey or clarify the message and avoid unclear information in the target discourse.	(Barik 1971; De Feo 1993; Kohn/ Kalina 1996; Kalina 1998; Al-Khanji *et al.* 2000; Messner 2000; Donato 2003; Bartlomiejczyk 2006; Liontou 2011)
Delaying response/ stalling	The interpreter produces generic utterances, absent in the source speech. They provide no new information, but enable the interpreter to delay production while avoiding long pauses when faced with reformulation difficulties from information retrieval or word choice.	(Kirchhoff 1976/2002; Setton 1999; Al-Qinai 2002; Donato 2003; Riccardi 2005; Bartlomiejczyk 2006; Meuleman /Van Besien 2009; Gile 2009; Liontou 2011)

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Strategy names	Definition	Researchers
Approximation/ attenuation	When the interpreter is not able to retrieve the ideal equivalent of a lexical element in the source discourse, she or he provides a near equivalent term, a synonym, or a less precise version of it in the target discourse.	(Kalina 1992, 1998; Kohn/ Kalina 1996; Niska 1998; Al-Khanji et al. 2000; Al-Qinai 2002; Al-Salmon/Al-Khanji 2002; Donato 2003; Bartlomiejczyk 2006)
Paraphrasing/ explaining	The interpreter explains the intended meaning of a source speech term or wording when the suitable target correspondent is hard to retrieve at the moment.	(Niska 1998; Wu 2001; Al-Qinai 2002; Donato 2003; Chang 2005; Bartlomiejczyk 2006; Gile 2009)
Morpho-syntactic transformation	The interpreter tries to depart from the surface structure of the original sentence and decides to express the meaning of the original message using a different syntactic construction.	(Kalina 1998; Riccardi 1999; Donato 2003; Chang 2005; Bartlomiejczyk 2006; Lion-tou 2011)
Transcodage/ transcoding/ calque	The interpreter selects the word-for-word translation method because the interpreter is not able to grasp the overall meaning of the source text.	(Seleskovitch 1978; Kohn/ Kalina 1996; Kalina 1998; Al-Qinai 2002; Donato 2003; Al-Salman/ Al-Khanji 2002; Bartlomiejczyk 2006; Gile 2009)
Parallel reformulation/ substitution	The interpreter tries to invent something that is more or less plausible in the context, or to substitute elements that are not understood with elements mentally available, because of comprehension, note-taking or note-reading failure, so as not to pause or leave a sentence unfinished.	(Kohn/Kalina 1996; Al-Khanji et al. 2000; Wu 2001; Al-Qinai 2002; Donato 2003; Bartlomiejczyk 2006; Gile 2009)

Strategy names	Definition	Researchers
Restructuring/ changing order	What is conveyed by the speaker in one position in the source discourse is interpreted by the interpreter in a different place in the target discourse, which ensures more idiomatic target language.	(Kirchhoff 1976/2002; Riccardi 1995; Al-Qinai 2002; Donato 2003; Bartlomiejczyk 2006; Gile 2009; An 2009)
Inferencing	The interpreter recovers lost or incomprehensible information on the basis of the speech context and his or her general knowledge.	(Kohn/Kalina 1996; Kalina 1998; Chernov 2004; Bartlomiejczyk 2006; Gile 2009)
Repair	The interpreter realizes that something said is misinterpreted, or can be interpreted in a better way, and he or she decides to make a correction.	(Kohn/Kalina 1996; Al-Khanji *et al.* 2000; Petite 2005; Bartlomiejczyk 2006; Liontou 2011)
Evasion/ neutralization	The interpreter avoids committing himself or herself to a definite position where analysis of the source discourse does not provide sufficient specification, and instead of misleading the audience, he or she leaves it for the audience to decide.	(Kohn/Kalina 1996; Kalina 1998; Al-Khanji *et al.* 2000; Donato 2003)
No repair	The interpreter leaves the fragment in question as it is, since repairs may cause more harm than help. It is different from making an error of which the interpreter is not aware, which is then not a strategic decision. No repair is a conscious choice not to make repairs in monitoring the output.	(Kalina 1998; Bartlomiejczyk 2006; Liontou 2011)

Strategy names	Definition	Researchers
Incomplete sentence	The interpreter uses fragmented utterances, stops in mid-sentences, and omits large units of the source discourse because of comprehension, note-reading, or memory failure. This is considered as a strategic decision because it is a conscious choice, instead of an unconscious behavior.	(Al-Khanji *et al.* 2000; Al-Salman /Al-Khanji 2002)
Repetition	The interpreter repeats previously interpreted elements through synonyms or synonymic phrases as a way of enhancing lexical accuracy or generating more time to organize the language.	(Donato 2003)

Table 1. Consecutive interpreting strategies, definitions and references

This paper focuses on the strategies used by student interpreters in a consecutive interpreting task from English to Chinese. The procedure entails recording and retrospection for trainees, and questionnaires for trainers. The purpose is to explore whether students' strategy use is influenced by teachers' training.

2. Methodology
2.1 Research question

This study aims to address the following question: Is students' strategy use related to strategy training in class?

2.2 Subjects

Forty-one students, 7 male and 34 female, participated in the study. Aged between 21 and 23, they were all third-year undergraduates with Chinese and English as their A and B language. They finished 6 months of training on sight translation and consecutive interpreting in the same T&I program.

Measures were taken to ensure validity in sampling. The students' language proficiency, particularly analytical listening skills, differs. Those who are weak in interpreting will transfer to the track of translation at the end of the third year. Although all 41 students participated in the study, only those who showed good

accuracy and delivery and scored 85 or more in the consecutive interpreting task concerned were chosen as the source of data for analysis. Two raters who were also the participants' teachers scored the interpretations holistically in terms of content consistency, language quality and delivery. Only 25 recorded consecutive interpretations were selected in data analysis. Such a decision was made to ensure that all the interpretations were comparable to the interpreting quality of novice interpreters. This is consistent with Duff's (2008) homogenous strategy of case selection. The aim is to remove out cases that will exert negative impact on the results, and describe well the subgroup concerned. In the current study, the homogenous subgroup was composed of those who scored 85 or more and whose interpreting performances were comparable to those of novice interpreters.

Three female teachers who are also freelance interpreters ranging from the age of 32 to 43 were involved in this research. They were all teachers of the participants with the same working language combination. They had been teaching interpreting for more than five years. The use of three teachers is not a large sample, but considering the size of the faculty and that all the teachers must be teachers of the student subjects, three teacher subjects was the best that could be done in this study.

2.3   Instruments

The instruments to collect data involved an interpreting task and its rating criteria, a stimulated oral verbalization task and teacher questionnaires.

The main criteria in choosing the source texts were authenticity and difficulty. Two English speeches were selected, one for warming up and the other for the real interpreting tasks. They are authentic test material taken from China Aptitude Test for Translators and Interpreters Level 3 (see appendix 1). According to an interview after the retrospection, none of the subjects had heard or read the speech before. A detailed description of the input material can be seen from table 2.

<div align="center">Description of the input speech</div>

Topic	Asia's prosperity and value
Genre	Political speech
Medium	Audio
Length	371 words
Delivery speed	148/wpm
Speaker	Male
Intonation/accent	Neutral/almost standard
Concrete/abstract	Primarily abstract
General/technical	General
Vocabulary/syntax	A few hard words and complex sentences
Language function	Informative and persuasive

Table 2. Description of the input speech

Rating criteria were designed to remove the poorly interpreted versions out so that the student interpreters' performance was comparable to novice interpreters in terms of content consistency, language quality and delivery.

The interpreting process lasted for about five minutes. Immediately after the interpreting task, retrospective verbalization was used to investigate the strategies employed. The student subjects were advised to verbalize their problems and their correspondent solutions from memory after the interpreting task. This process was prompted by stimuli, namely, reading the original transcript of the speech, and listening to their own interpretations.

Teacher questionnaires were designed to check if the teachers train students in the use of strategies in class. The instructions in the questionnaire made it clear that "Your choice should depend on what you did instead of what you should do". In this way, the possibility of saying yes to strategies that sound good but which have not been taught is lowered. The questionnaires were administered when the analysis of the students' data was done. The questionnaire consists of two sections, one on background information and the other including 16 strategies identified from the data of student subjects' verbalizations and interpretations (see appendix 2). The items on strategy training employ five-point scales. The more the statement applies to the teachers' practice in class, the higher the points they give.

It should be made clear that only the 16 strategies that were used by the students appeared on the teachers' questionnaire. Though the teachers might have taught more than 16 strategies, those that were not used by the students cannot help reveal the correlation between strategy training and strategy use. Given the purpose of this study, strategies making no contributions to the current research are excluded.

2.4   Data Collection

Data collection from student subjects was done in a computerized interpreting lab. Each subject's interpreting was recorded. Immediately after the interpreting, the subjects were asked to read the transcript of the source speech, listen to their own interpretations, and recall their interpreting process. Each time they recalled problems that occurred or threatened to occur in their interpreting, and decisions to solve the problems or to prevent them from arising, they took them down. Subsequently, the subjects reported their feedback in Chinese which is their mother tongue and was recorded. The recording and retrospection data were transferred to a computer for rating, selection, transcription, and analysis.

The questionnaires were used to collect data from the teachers after the students' data were analyzed. The researcher sent the questionnaires to the three teachers via email and they were all returned.

2.5   Transcription and data encoding

In transcription, only actual words were registered to avoid being time-consuming and less readable. All other aspects were eliminated from the transcript.

Data encoding started with classification of retrospective remarks into general categories. The classification system was adapted from Bartlomiejczyk (2006: 165). In encoding the retrospective data, references were also made to subjects' interpretations. Both the interpretations and retrospective remarks were characterized with variability. The interpretations varied in the quality of content and delivery. The retrospective remarks varied in terms of length, quantity, and quality.

The remarks were encoded into 1,570 segments. Over 25% were of strategic nature. The distribution of different types of segments is shown in table 3.

Segment type	Number of segments	Percentage
Product-oriented	459	29.2%
Strategic	405	25.8%
Problem-oriented	374	23.8%
ST-oriented	83	5.3%
Word-retrieval	79	5.0%
Interpreter's feeling	64	4.1%
Selection	15	1.0%
Others	91	5.8%
Total	1,570	100.0%

Table 3. Distribution of retrospective segments

Subsequently, the 405 strategic segments were classified into 16 categories of strategies. It needs to be noted that one segment may involve the use of more than one strategy because one problem may be solved by a combination of solutions. Since the subjects were advised to use their mother tongue in the retrospection, the translated versions of those retrospective remarks are presented in table 4.

Strategies	Evidence from subjects' retrospection
Compression	"Recognizing positive influences of each other despite differences among countries" in the original was not concise with regard to the target language, so I interpreted it as "seek common interests while reserving differences." This was clearer and did not distort the original.
Omission	The fourth segment was incomprehensible for me, particularly "economic development has created the conditions for the emergence of a middle class and civil society." Therefore, I only mentioned the other half of the sentence, which was "a democratic political system has been inevitable."
Addition	Since I made many divisions, I added "firstly," "secondly," and "thirdly." Then when I heard "behind peace and development in Asia," I added "we should work hard in cooperation for the peace and development in Asia." Occasionally I included some information which I felt did not alter the original message.
Stalling	While I was translating the seventh segment with the word "nationalism," the equivalent was at the tip of my tongue. I said "huh" several times during my thinking for the right word.
Approximation	"Guiding principle" was in my notes, but I could not come up with the appropriate equivalent so I said "rules people have to follow." This is somewhat different from the original but it supported the meaning.
Paraphrasing	The last segment includes a phrase "conveying Asian's voice to the world." I understood this, but did not know how to translate the surface structure. I therefore interpreted it as "make Asia understood by the world."
Syntactic transformation	A question in the source speech, "what are the specific challenges that we face?" was answered in the following text. It was interpreted as the statement, "we have to face a lot of challenges."
Transcodage	The fourth segment is long and includes an insertion. I only took down some key words and was unclear about the logical connections between them. I interpreted the sentence relying on the surface of the words in my notes.
Parallel reformulation	Towards the end of the speech, I missed the section "we thus see differences in the processes and speed of development." I replaced it with my own version that fit in the context. The meaning did not change much.
Changing order	When interpreting this segment, I put "politically," which appears at the end of the sentence in the source speech, at the beginning of the target speech. It would have been awkward if I had not done this.

Strategies	Evidence from subjects' retrospection
Inferencing	I heard, but did not understand "parochial." I guessed that it might mean limited in some way because it was followed by "nationalism and dogmatism."
Repair	When I was interpreting "leave behind," I translated it as "avoid," but then I thought it would not collocate well with "nationalism and dogmatism." I corrected it and replaced it with "abandon" which sounds good in the target language.
Evasion	I'm not quite sure about the meaning of this sentence, but I have to interpret it, obviously not based on my own invention. I relied on the context and conveyed the idea in a vague manner.
No repair	I interpreted it as "stepping forward" instead of "taking significant steps towards freedom." I thought the latter was better. Since the interpreting was completed, I did not correct it.
Incomplete sentence	While interpreting "our cooperation must not be of inward-looking closed nature," I did understand the meaning of the original, but I started with "cooperation should not be closed in nature," and I could not continue because I failed to come up with the right word corresponding to the remaining information. Therefore I did not complete the sentence.
Repetition	When I was interpreting this sentence, I saw "1" in my notes, I said "firstly," then when I was thinking about how to organize the coming information, I mentioned the point again by saying "the first point I would like to make."

Table 4. Strategies and evidence from subjects' retrospection

3. Results and discussion
3.1 Strategy use among students

The students' use of strategies is presented in table 5.

Strategy	Frequency of use	Percentage
Evasion	1	0.3%
No repair	1	0.3%
Incomplete sentence	4	1.0%
Repetition	6	1.5%
Transcodage	6	1.5%
Paraphrase	13	3.2%

Strategy	Frequency of use	Percentage
Repair	14	3.5%
Inferencing	17	4.2%
Compression	25	6.2%
Syntactic transformation	25	6.2%
Approximation	28	6.9%
Stalling	36	8.9%
Addition	42	10.3%
Changing order	45	11.0%
Parallel reformulation	57	14.0%
Omission	85	21.0%
Total	405	100.0%

Table 5. Frequency of strategy use

As can be seen from table 5, student interpreters employed strategies such as addition, paraphrase, changing order, syntactic transformation, and no repair and so on. Those strategies help communicating messages to the audience. However, there were also risky strategies such as incomplete sentence and repair, the frequent use of which may not help build the interpreter's positive image. Another group of strategies were for self-protection (Gile 2009: 213), including omission, repetition, compression, evasion, transcodage, inferencing, stalling, and parallel reformulation. The use of those strategies might have been related to the students' availability of processing capacity.

The results are suggestive of the relations between strategy use and interpreting modes. Different working modes pose different challenges and thus require the adoption of different strategies. In consecutive interpreting, the interpreter is not externally paced by the speaker and the phases of listening and speaking are separate. Interpreters are more likely to use strategies like changing order, addition, and syntactic transformation and so on.

The direction of the interpreting task, from the subjects' weak language English into the mother tongue Chinese might have influenced the results. The frequent use of omission, parallel reformulation, compression, and inferencing, suggests that listening comprehension might have posed difficulties in working from B language into A language among student interpreters.

Students' strategy use is consistent with the findings of Donato (2003) and Gile (2009) that strategy use has to do with the language pairs involved in the interpreting task. The use of changing order and syntactic transformation is necessary in interpreting between English and Chinese in that the two languages differ greatly in syntactic features. Moreover, not a single case of transfer (the interpreter uses target language words that are etymologically or phonetically similar to those in the source language) was identified.

3.2 Teacher subjects' feedback on strategy training

The questionnaires from the teachers required no transcription or encoding but analysis. The feedback from the teachers on the teaching of specific interpreting strategies reveals that the teachers attached importance to strategy training.

As can be seen in table 6, the teachers included strategy training in class. Strategies like paraphrase, syntactic transformation, omission and compression were the mostly taught ones. A point of 4 or more means that the teachers' responses to the items "I have taught my students to …" in the questionnaire were "usually true of me" or "completely or almost completely true of me".

By contrast, strategies such as repetition, incomplete sentence, no repair, and transcodage were not taught. A point of 2 or less indicates that the teachers' choices on questionnaire items "I have taught my students to …" were "usually not true of me" or "never or almost never true of me". Those strategies were not mentioned in class because they degrade the quality of interpreting and damage the credibility of the interpreters. It makes sense that teachers only stressed the use of strategies that help build interpreters' positive image.

Strategy	Responses from teacher subjects	Mean value	Std. Deviation
Paraphrase	3	4.33	0.58
Syntactic transformation	3	4.33	0.58
Omission	3	4	0
Compression	3	4	0
Changing order	3	4	1
Stalling	3	4	0
Evasion	3	3.66	0.58
Addition	3	3.33	0.58
Approximation	3	3.33	2.08
Parallel reformulation	3	3	1.73
Inferencing	3	3	1.73
Repetition	3	2.66	1.15
Incomplete sentence	3	2.33	1.53
Repair	3	2.33	1.53
No repair	3	1.66	0.58
Transcodage	3	1.33	0.58
Valid N (listwise)	3		

Table 6. Descriptive statistics on training of interpreting strategies

Although the teachers preferred not to teach strategies that degrade the interpreter's positive image, students still used some of them in their performances.

The reasons might be that students were forced to use them when their cognitive resources were overloaded and were not able to deal with it properly. Therefore, it is important for teachers to teach students how to use strategies appropriately to ease their cognitive workload without degrading their image.

It should be admitted that the teachers' practices differed from each other. The data indicates that some taught strategies like approximation, parallel reformulation, inferencing and repair in class, while others did not. This is not surprising because teaching is quite subjective and variability is normal.

3.3 Correlation between strategy use and training

This study aims at investigating if students' strategy use and strategy training are related. To show the effect of strategy training on student interpreters, a correlation analysis between strategy teaching and strategy use was conducted. Table 7 presents the correlation between the mean of the teachers' feedback on their teaching of strategies and students' strategy employment frequency.

		Strategy training	Strategy use frequency
Strategy training	Pearson correlation	1	.501*
	Sig. (2-tailed)	.	.040
	N	17	17
Strategy use frequency	Pearson correlation	.501*	1
	Sig. (2-tailed)	.040	.
	N	17	17

Note: * Correlation is significant at the 0.05 level (2-tailed).

Table 7. Correlation analysis between strategy training and strategy employment frequency

As can be seen from table 7, the correlation between the teachers' teaching of specific strategies and students' strategy use frequency is significant because it reaches the level of 0.05. The confidence on the positive correlation between the teaching of specific strategies and strategy employment frequency is 95%. In other words, there are five chances out of 100 where the result might be wrong. However, the positive relationship between teaching strategies and students' strategy use does not necessarily mean that there is a 100% causal relation between them. There are other factors which also determine the strategy use of student interpreters, among which are students' level of interpreting, knowledge base, the input material, memory, note-taking skills, etc. Since this is an observational study instead of an experimental research, no manipulation of variables means that the findings of this research need to be confirmed in the future.

It can be said that students' strategy use is partially attributed to teachers' teaching in class. However, since no control group who had not been taught

those strategies was involved in this study, it is still premature to conclude that the training of interpreting strategies is effective.

4. Concluding remarks

Data from the student subjects reveals that student interpreters employed 16 strategies. Some help build the interpreter's positive image, while others are risky and should only be used in emergency situations. This is consistent with the cost of using strategies which might be potential information loss, credibility loss, impact loss, or time and processing capacity cost (Gile 1997/2002: 172).

The strategies used by the students also suggest that strategy use is related to interpreting mode, language pair, and working direction, though more evidence from similar research designs is necessary to corroborate the current findings. The data from the teachers reveals that strategy training was a component of their interpreting classes. The correlation analysis shows that the teaching of specific strategies is positively related to students' strategy use.

The conclusion of this research suggests implications in interpreter education. Firstly, since strategy training contributes to students' strategy use, strategies should be a necessary component of interpreter training. The intentional and automatic use of them reduces the cognitive load, which helps to minimize the side effects from processing capacity saturation and facilitate the general interpreting process. Secondly, language pair-specific strategies may be introduced and repeatedly practiced by students. This may allow students to bridge the differences between the source language and the target language more efficiently.

The findings presented here are valid only for the language pair, interpreting mode, interpreting direction, and input speech involved in the current study. They cannot be generalized, and need to be treated with caution before they are further tested. Firstly, the data obtained for analysis is restricted because of the limited number of subjects, which may have influenced the outcome. Secondly, retrospection has its drawbacks. Some strategic decisions may not have been recalled because of the memory limitation of the subjects, the limitation of the stimulus materials, or the automatic nature of strategy use. The fact that the non-strategic fragments account for more than 70% of the retrospective remarks seems to support it. Given the above-mentioned weaknesses, it remains to be seen if the findings can be confirmed or rejected in the future.

Appendix 1 Input Material for the Interpreting Task

Ladies and gentlemen, what values should we pursue for the prosperity of Asia in the new century? I believe that the three values of freedom, diversity and openness are the driving forces behind peace and development in Asia. // First, it goes without saying that freedom refers to democracy and human rights politically. Economically, it means the development of a market economy. // Political freedom and economic freedom are reinforcing each other in the process of their development. With some twists and turns, Asia as a whole has been taking sig-

nificant steps towards freedom over the last half century. // Transition to a democratic political system has been inevitable, as economic development has created the conditions for the emergence of a middle class and civil society. I believe that the historic trends that are apparent in Asia should be a source of pride for us all. // Second, development in Asia has occurred against a background of tremendous diversity, where each country has its own distinctive history and social and cultural values. Naturally, we thus see differences in the processes and speed of development. // While respecting diversity, however, it is important for us to promote our common interests and our shared goals, recognizing positive influences of each other despite differences among countries. // In other words, we must leave behind parochial nationalism and dogmatism, and promote mutually beneficial cooperation based on equality in order to enjoy common prosperity. This should be our guiding principle. // Third, our cooperation must not be of an inward-looking, closed nature, but one characterized by openness to the world outside Asia. // In a world economy where globalization is advancing and economic integration, such as in Europe and Americas, is proceeding, cooperation both within Asia and between Asia and other regions must be pursued. This cooperation must be based on the principles of openness and transparency. // I believe Asia should set an example for the world by seeking regional cooperation that surpasses national and ethnic distinctions. // So, as we pursue prosperity in a free, diverse and open Asia, what are the specific challenges that we face? I'd like to discuss three challenges. They are reform, cooperation and conveying Asia's voice to the world. (taken from CATTI, Level 3, May, 2005.)

Appendix 2 Teacher Questionnaire

Part A Teacher background

A01. Name:
A02. Gender: M ☐   F ☐
A03. Years of teaching interpreting:
(Round up to the nearest whole number and include the current school year.)
A04. Subject(s) taught:
(consecutive interpreting / simultaneous interpreting / sight interpreting)

Part B Strategy training

The following items are about the teaching of strategies to your students. Please decide the degree of truth of each statement below. Your choice should depend on what you did instead of what you should do.
1 = This statement is never or almost never true of me;
2 = This statement is usually not true of me;
3 = This statement is somewhat true of me;
4 = This statement is usually true of me;
5 = This statement is completely or almost completely true of me.

B01. Addition: I have taught my students to add or expand something the speaker did not say in their interpreting to convey more complete and coherent target language.

B02. Repetition: I have taught my students to repeat previously processed elements in interpreting as a way of enhancing lexical accuracy or gaining more time to organize the language.

B03. Omission: I have taught my students to omit incomprehensible input or unnecessarily repetitive, redundant, unimportant or unacceptable utterances.

B04. Evasion: I have taught my students to avoid committing themselves to a definite position where source-text-based analysis fails to provide sufficient specification.

B05. Incomplete sentence: I have taught my students to use fragmented utterances, or to stop in mid-sentences and omit units of the text, if comprehension, note-reading, or memory failure arises.

B06. Approximation: I have taught my students to provide a near equivalent term, synonym, or less precise version of it in case of not being able to retrieve an ideal equivalent.

B07. Compression: I have taught my students to render the original meaning in a more general and concise way, with those repetitive, unimportant, or redundant deleted.

B08. Paraphrase: I have taught my students to explain the intended meaning of a source language term or wording when the suitable target correspondent is hard to retrieve.

B09. Changing order: I have taught my students to reformulate elements in one position in the source discourse in a different place in the target discourse so as to enable a better target language reformulation.

B10. Syntactic transformation: I have taught my students to depart from the surface structure of the original sentence and express the meaning of the original message using a different syntactic construction.

B11. Transcodage: I have taught my students to use word-for-word approach by relying on the surface structure of the source language because of not being able to grasp the overall meaning of the segment.

B12. Stalling: I have taught my students to produce generic utterances absent in the source speech which provide no new information but which enable them to delay production and avoid long pauses when faced with information retrieval or word choice problems in reformulation.

B13. Parallel reformulation: I have taught my students to invent something that is more or less plausible in the context, or to substitute elements that are not understood with elements mentally available because of comprehension, note-taking, or note-reading failure, so as not to pause or leave a sentence unfinished.

B14. Repair: I have taught my students to make corrections when realizing that something said is misinterpreted, or can be interpreted in a better way.

B15. No repair: I have taught my students to leave the fragment with the problem of misinterpretation or awkward expression as it is since correction may cause more harm than help.

B16. Inferencing: I have taught my students to recover lost information on the basis of the speech context and their general knowledge.

Acknowledgements

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Scope

In recent years, scholarly interest in Interpreting Studies has embraced broader horizons beyond conference interpreting to explore new forms of interlinguistic communication that are emerging in response to rapid transformations within our modern societies. Issue 19 of *The Interpreters' Newsletter* will focus on   Sign Language Interpreting (SLI) an exciting new research area that is developing in different parts of the world. The provision of formal training in SLI began in the second half of the 20ᵗʰ century in a handful of countries in response to a growing demand for qualified interpreters able to assist deaf people in a wide variety of social contexts and is spreading worldwide at an uneven pace. Some training institutions have several decades of experience in the field, whereas others are still at early stages of development or planning. Owing to national linguistic policies and political shortcomings, many obstacles to universal provision of SL interpreter training and, thus, easy access for deaf people to the services of professional Sign Language interpreters still remain. The editor invites theoretical and empirical contributions that address different aspects of SLI in any language combination. The aim of this issue is to call on practitioners, trainers and researchers to address the state-of-art in their fields of experience. Topics of interest include, but are not limited to, the following:

Topics of interest

- Spoken- vs. signed-language interpreting
- Public Service Interpreting for deaf clients (research in different work settings)
- Sign Language conference interpreting
- Deaf interpreters
- SLI skills and strategies
- Quality in SLI
- SLI and the media
- SLI and new technologies

Papers must be submitted in English or French and describe original research which is neither published nor currently under review by other journals or conferences. Submitted manuscripts will be subject to a process of peer review. Guidelines are available at: http://www.openstarts.units.it/dspace/handle/10077/2119

Manuscripts should be around 6,000 words long, including references and should be sent as Word attachments to the e-mail address: jkellett@units.it (Subject: "NL 19 PAPER").

Important dates

Manuscript submission:	15ᵗʰ November 2013
Notification of acceptance:	30ᵗʰ April 2014
Publication:	December 2014

Scope

Dialogue Interpreting (DI) has been gaining increasing scholarly interest in Interpreting Studies, revising the notion of interpreter invisibility to account for the physical and verbal participation of interpreters in the interaction. This interest has fostered discussion on the socio-pragmatic aspects of the interpreter's role in a complex, multi-party communication activity. Issue 20 of *The Interpreters' Newsletter* will offer researchers and practitioners the opportunity to share research results and aims to provide an exhaustive overview of the latest advances in this field. The editors invite contributions that address theoretical, methodological and practical issues of DI.

Topics of interest

Topics of interest include, but are not limited to, the following:

- Design and creation of DI corpora and methods of interrogation
- Analysis of interpreters' performances
- DI in different work settings (e.g. health care, immigration services, courtrooms, business settings, police stations, television, etc.)
- Interactional aspects of DI (interpreting as translation and coordination activity, role and identity negotiation, co-construction of meaning, etc.)
- Code switching in interpreter-mediated dialogue-like interactions
- DI *in absentia* (i.e. remote, telephone or video interpreting)
- Ad hoc, natural or non-professional interpreting in dialogue-like interactions
- Multimodality in DI
- Cultural competence and DI
- Note taking in DI
- DI quality assessment and users' expectations
- DI ethical, socio-cultural and ideological issues
- Recurring tendencies in interpreters' translational behaviour and their impact – if any – on the dissemination of DI rules of conduct and professional norms

Papers must be submitted in English or French and describe original research which is neither published nor currently under review by other journals or conferences. Submitted manuscripts will be subject to a process of double-blind peer review. Guidelines are available at: http://www.openstarts.units.it/eut/Instructions2AuthorsInterpreters.pdf

Manuscripts should be around 6,000 words long, including references and should be sent as Word attachments to the e-mail address: interpretersnewsletter20@gmail.com (Subject: NL 20 PAPER; File Name: author's name _ IN2015 _ paper).

Important dates

Manuscript submission:	15th November 2014
Results of peer-reviewing process:	30th April 2015
Publication:	December 2015