Exploring the Possible Effects of Visual Presentations on Synchronicity and Lag in Simultaneous Interpreting

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Abstract

This article discusses the possible effects of the use of visual presentations on simultaneous interpreting, using the media interpreting model described in the literature as the basis for the hypothesis that in order to satisfy user expectations, interpreters will increase synchronicity by reducing lag with a view to maintaining the coherence of the oral/audio and visual input. The article presents the preliminary results of a pilot study drawing on real-life professional data designed to test this hypothesis and the feasibility of further research with a broader sample base. Although only tentative, the results of the study run contrary to the initial hypothesis, with lag increasing significantly when visual presentations are used. The discussion focuses on alternative explanations and a new hypothesis to be pursued in future research drawing on a statistically representative data pool.

Key words: lag/ear-voice-span, synchronicity, visual presentations, simultaneous interpreting, pilot study

Resumen

Aproximación a los posibles efectos del uso de presentaciones visuales sobre la sincronía y el décalage en la interpretación simultánea

Este artículo aborda los posibles efectos del uso de presentaciones visuales en la interpretación simultánea, partiendo del modelo de interpretación para los medios descrito en la literatura como base para la hipótesis de que, para satisfacer las expectativas del público, los intérpretes aumentarán la sincronía mediante una reducción del *décalage* con el fin de mantener la coherencia del input oral/sonoro y visual. El artículo presenta los resultados preliminares de un estudio piloto basado en datos profesionales reales diseñado para comprobar dicha hipótesis y la viabilidad de llevar a cabo ulteriores investigaciones sobre una base de muestras más amplia. Si bien son tan sólo provisionales, los resultados del estudio contravienen la hipótesis inicial, en cuanto a que el *décalage* aumenta significativamente con el uso de presentaciones visuales. La discusión se centra en explicaciones alternativas y una nueva hipótesis que deberá ser objeto de futuras investigaciones basadas en un conjunto de datos estadísticamente representativo.

Palabras clave: *décalage*, sincronía, presentaciones visuales, interpretación simultánea, estudio piloto

1. Introduction

Conference interpreting has been likened to a "steeple chase" (Alonso Bacigalupe 2001) owing to the hurdles which interpreters must overcome above and beyond mastering the simultaneous technique itself, whereby: "All these characteristics and constraints make for a very special kind of working environment, with precise requirements, where interpreters need to develop a well-balanced technique." (Alonso Bacigalupe 2013: 17). The aim of this paper is to explore to what extent certain specific constraints can have a direct bearing on what can be described as a "well-balanced technique" with a view to satisfying user expectations and needs as the benchmark for interpreting quality.

Freelance interpreting is increasingly characterised by the widespread use of visual presentations to accompany the oral delivery which may become an additional working constraint for interpreters. This paper discusses the possible consequences of this innovation for interpreters and the eventual effects it may have on the basic technique deployed, postulating the working hypothesis that the generalised usage of complementary visual material may call for increased synchronicity and consequently reduced lag, blurring the distinction between general conference interpreting and the specialised field of media interpreting (MI).

While it should be acknowledged that the use of accompanying visual support may actually be irrelevant at times (Pöchhacker 1994: 98) or even facilitate the interpreter's task in several ways at others, e.g. by allowing the interpreter to defer directly to what the listeners can see without necessarily interpreting it (Alonso Bacigalupe 1999b: 135), described by Rennert (2008: 209) as the "as you can see in the image" stratagem, these are marginal phenomena, with the latter serving only as an occasional last resort gambit rather than an integral part of the basic interpreting technique, with repeated usage potentially leading to fatigue on the part of the public who may not, for whatever reason (e.g. visual impairment, illegible slides, slides in a language with which they are unfamiliar, etc.) actually be able to 'see what is in the image' and who would expect to receive the information they require regarding the contents of the original speech from the interpreter via their headsets.

While accompanying visual support may indeed facilitate certain aspects of interpreting on occasions, for example by reducing the mnemonic load required for processing and relaying figures and/or lists (as and when they can be correctly seen from the interpreting booth), conversely, however, the generalised usage of visual presentation such as PowerPoint[1] could be expected to add an additional burden for the interpreter, involving pressure to match the audio-visual contents of the source text with the oral target text in order to guarantee "consistency between the oral and the visual input received by the target audience." (Alonso Bacigalupe 2013: 24). As noted below, this is particularly relevant in cases involving languages such as English which are at least passively and partially comprehensible to a large sector of the target

public, when it would be fair to assume that audiences would expect what they are hearing to coincide with what they can see.

2. Theoretical Background

In simultaneous interpreting (SI), the time that elapses between the speaker uttering the source text and the production of the equivalent segment in the target language, referred to variously as '*décalage*', "ear-to-voice span" (Goldman-Eisler 1972) and "time lag" (Tomovará, Dragsted and Gorm Hansen 2011; Gillies 2013), is often perceived as being an integral part of the basic SI technique, with training manuals (e.g. Gillies 2013: 207-212) often including exercises designed to 'improve' it, with increased lag assumed to be proportional to and almost synonymous with an improved technique and performance, seen as a cognitive necessity in order to provide the interpreter with time to process the information received.

In line with the traditional view, Lee (2002: 598) defines lag in the following terms: "EVS [ear-to-voice span] can be defined as the minimum time needed by an interpreter for information processing under heavy cognitive processing." It will be noted that this definition is based exclusively on the perceived needs of interpreters, despite the fact that other parties are also involved in the interpreting process, namely the person producing the original (the speaker) and, more importantly, the person or persons receiving the interpretation (the public). Alternatively, therefore, adopting a more user-based approach, this definition could be rephrased in terms of "the maximum time lapse acceptable for the interpreter's public". What this means in practice is that while exercises designed to practice lag may arguably be a useful pedagogical tools for would-be interpreters at an early stage of their training in order to encourage them to look for alternative solutions when a basic translation-oriented approach fails, there are factors, such as the increasingly wide-spread use of accompanying visual materials (notably PowerPoint presentations) which might tend to suggest that synchronicity rather than lag would be a more effective strategy in terms of satisfying user needs and expectations or, in other words, overall quality.

This has traditionally been seen to be the case for media interpreting (MI), where there is a clear need to coordinate audio and visual input. MI, especially interpreting for television, has been the object of various studies which indicate that the specific features associated with this subgenre call for "extra competence as compared with institutional settings" (Straniero Sergio 1996: 303) involving "a new job profile" (Kurz 1990: 173) and a new "mind set compared to the everyday practice of conference interpreting." (Kurz 1997: 197)

However, such remarks made over 15 years ago (some even almost twice as long) have now become at least partially obsolete to the extent that they refer exclusively to MI, yet with the dawning of the information and communications technology (ICT) society and the advent and generalised usage of technical innovations such as visual presentations, especially following the launch of PowerPoint in 1990, an im-

portant part of the skills once seen as being specific to MI have now largely spilled over into the wider domain of general conference interpreting. In the 21st century, the gap between the two can be seen to have closed considerably, ostensibly blurring the boundary, with the 'context' (involving oral/audio-visual coordination) serving as the primary defining factor when distinguishing between conference interpreting and media interpreting:

> Though no clear-cut distinctions can be made between conference interpreting and television interpreting (TI) […] some peculiar features characterizing TI can be outlined. […]. Rather than outlining these differences, we prefer to talk about the context where TI is occurring; considering the context is a pre-requisite in order to understand the distinctive features of TI and to understand the nature of the context is to grasp the principles that govern the interpreting strategies and its requirements. (Pignataro 2011: 82-83)

As such, the appropriateness of an interpreter's technique will depend not only upon her/his preferred strategy and the amount of time s/he requires to process the information received, but also on a series of external variables over which s/he has no control. In other words, above and beyond hypothetical, theoretical considerations, the actual real-life professional 'setting' or 'situation' is paramount: "[…] the elimination of the situational context – in which the interpreted event takes place – creates a gap between ideal (academic) quality and situated (real-world) quality." (Straniero Sergio 2003: 135)

As such, for example, the specific setting associated with television interpreting calls for increased speed on the part of the interpreter in order to harmonise the information received by the audience in the visual and audio channels: "In media interpreting, speed is of the essence, i.e. the interpreter's voice must coincide as much as possible with that of the person being interpreted." (Kurz 1997: 197). Regarding the question of speed, Shlesinger (1997: 128) argues that "a text that is overly rapid may be judged as lacking in quality in instrumental terms, even though it is inter- and intratextually adequate". Nevertheless, while this might serve as a rule of thumb for idealised situations, in the case of MI there seems to be a general consensus that speed is of the essence as an integral part of the working technique. In fact, the related concept of speed of reaction (if not the actual rate of speech itself) is generally seen as one of the distinguishing features of media interpreters, as Bros-Brann (1994: 26) notes in the case of live television work, where interpreters should be able to perform at a "supersonic pace" while maintaining the correct style and tone. Moreover, a direct correlation can be seen to exist between interpreter speed and source-target synchronicity: "[…] the media interpreter must endeavour to be very quick without 'hanging over' excessively after the speaker has finished. […] avoiding the build-up of ever-increasing time lag." (Kurz 1990: 170). The reasons for this are obvious; for instance it would be impossible to lag behind and continue interpreting a live intervention that had already finished once a new section, e.g. the advertisements, had begun.

In such cases, the interpreted version would simply be cut short, thereby becoming incomplete.

It has been claimed that: "Television interpreting is […] substantially different from interpreting in traditional conference settings and ordinary face-to-face communication" (Mack 2002: 204), with key defining differences including the existence of a "remote audience" which is "by definition undifferentiated, anonymous and numerous, with no possibility of active participation." (Mack 2002: 206-207). This clearly overlooks the case of remote interpreting (see, for example, Mouzourakis 2006) thanks to the technical progress made since the time these words were written and which at least makes the speaker and the public remote from the interpreter if not from each other. Nor is it clear to what extent the public attending a conference in person would be liable to have any "possibility of active participation." Furthermore, over a decade later, the generalised usage of visual support in the freelance market means that it is no longer true to claim that: "Television interpreters depend even more than conference interpreters on technical devices; the interplay of visual and acoustic channels […] is almost totally out of their control". (Mack 2002: 210). Indeed, while Pignataro (2011: 81) states that: "Television Interpreting and Conference Interpreting have always been regarded as profoundly different in terms of the expected performance and the interpreting strategies utilized", we would add that this is no longer necessarily the case, and that the strategies once specifically required by MI by dint of the specialised circumstances associated with it may well now be equally applicable to conference interpreting in similar settings, i.e. when there is a need to coordinate visual and oral/audio information:

> Since almost all speakers in the local market illustrate their tasks with slides, if the EVS is very long the public may be viewing a slide which does not match what the interpreter is saying at that point because s/he is one slide behind. Or else, the interpreter may be incapable of explaining the contents of one slide because it is no longer visible, as the speaker may have moved on to the next one. (Alonso Bacigalupe 2013: 24)

Indeed, as its very name suggests, simultaneity rather than lag lies at the very heart of SI, be it in a media or conference setting: "[listeners] want interpretation to be truly simultaneous, i.e. without interruptions in the interpreter's speech that cannot be accounted for by pauses in the original speech, and without delays in the onset of the interpretation whenever someone takes the floor." (Déjean le Féal 1990: 155). Moreover, there is a direct relationship between the chosen technique and its appropriateness in any given setting on the one hand and perceived quality on the other: "[…] quality discussion, particularly in terms of its evaluation, is highly bound to its setting." (Amini et al. 2013: 97)

A consensus began to emerge as early as the mid-eighties regarding interpretation as a user-centred activity (Kurz 2003) whereby, by extension, client-satisfaction must be the benchmark against which successful interpreting is to be measured: "Quality

of interpretation services is evaluated by users in terms of what they actually receive in relation to what they expected" (Kurz 2001: 394) or, put more simply: "What our listeners receive through their earphones should produce the same effect on them as the original speech does on the speaker's audience." (Déjean le Féal 1990: 155)

The original 8 criteria enunciated by Bühler (1986) for assessing quality (i.e. native accent; pleasant voice; fluency of delivery; logical cohesion of utterance; sense of consistency with the original message; completeness; correct grammatical usage; and use of correct terminology) can be condensed into three main blocs:

> Intertextually – a comparison of the source text and the target text […]; Intratextually – as a product in its own right based on its acoustical, linguistic and logical features; Instrumentally – as a customer service, based on the target text's usefulness and comprehensibility. (Shlesinger 1997: 128)

In the ordinary circumstances of an idealised conference setting using exclusively oral input, a smooth and fluent delivery is the only real means that an audience unfamiliar with the original language has of judging the quality of the interpretation they receive based on its prosodic features, defined as follows:

> […] a prosodic feature of speech that can be viewed as a function of a number of temporal variables. It is the complex interaction of pauses, audible breathing, hesitations, vowel and consonant lengthening, false starts, repairs, repetitions and speech rate that creates an impression of fluency or a lack thereof. (Rennert 2010: 104)

As Gile points out, in such ideal settings, the audience is unable to compare and judge the source and target texts and therefore cannot gauge fidelity, relying instead on delivery ('packaging') as the main (if not the only) ostensible indicator of quality:

> In simultaneous interpretation, the situation is similar to that of translation in that the delegates can listen only to either the original or the interpretation. […] Even if such recordings [of the source and target texts] are available, the comparison process is lengthy and tedious. A delegate listening to simultaneous interpretation can therefore assess the packaging but may find it just as difficult as the reader of a translator to assess the fidelity. (Gile 1991: 196-197)

In fact, Shlesinger (1997: 127) even goes so far as to state that: "[…] smooth delivery may create the false impression of high quality when much of the message may in fact be distorted or even missing", a claim which appears to be confirmed by the results of a recent study:

> The results suggest that there is a link between perceived fluency and perception of the interpreter's accuracy, confirming previous studies that suggest that lower fluency may impact negatively on the perceived quality of an interpretation […]. It appears from the results of

the study that fluency is more than just a matter of style and may, in fact, impact users' and clients' opinion of the quality of an interpretation in terms of performance and intelligibility. (Rennert 2010: 112-113)

While this is true, it fails to take into account the actual languages employed, which can have a profound impact on the way the target public uses the interpretation service available to them. Many, if not most, target audiences are likely to be familiar with English as a source language even if not fully conversant in it (Vuorikoski 1993: 324). For example, in the case of medical conferences delivered in English, as in many other formal or specialised settings, the non-English speaking audience may opt to listen primarily to the original, tuning in to the interpretation as a mechanism to resolve any doubts that may arise and, as such, will be likely to detect any discrepancies in the actual contents of the interpretation, rather than assessing quality based exclusively on delivery. A direct corollary of this is that the public will also be able to read and understand any accompanying visual presentations, especially within their own specialised field.

Empirical data provided by a study carried out by Kurz and Pöchhacker in 1995 (reported in Kurz 1997: 202) suggests that: "expectations of the quality of media interpreting differ from those of conference interpreting". However, returning to what was said earlier, nearly twenty years on from that 1995 study, while this may still be the case for settings where accompanying visual support is usually absent (e.g. international bodies), it is certainly no longer true of much of the freelance conference interpreting market, accounting for a large part of interpreting work around the world.

It would seem fair to assume, therefore, that the increasingly generalised use of PowerPoint presentations and other visual support would tend to heighten the need for synchronicity in a significant amount of freelance conference interpreting:

> The use of audiovisual material in conference rooms makes the requirement of a long EVS impossible and puts the focus on synchronism, a quality factor of media interpreting that may well be equally applicable to the current features of conference interpreting. (Alonso Bacigalupe 2013: 24)

For example, in the case of graphs, flow charts, diagrams, etc., the general meaning of which easily be grasped almost instantly by the audience regardless of whether they understand the source language or not, any lack of synchronicity and coherence between what is seen and what is heard would be confusing at the very least.

It would seem fair to assume that smooth, convincing delivery and grammaticality are no longer sufficient to ensure perceived quality in the light of the wide-spread use of visual aids such as PowerPoint presentations which entail the emergence of a key quality parameter new to conference interpreting, more in line with MI, namely audio-visual synchronicity. In fact, two decades ago Moser (1996) found that the vast majority of conference interpretation users found long pauses and excessive lag

irritating, and more recent empirical evidence indicates that excessive lag can have a negative bearing on the actual quality of the interpreted product even without accompanying slides: "Long EVS has a negative effect, not only on the quality of the sentence being processed, but also on the processing of the following sentence." (Lee 2002: 602)

The use of accompany slides means that one should at least reconsider 'optimum lag' not solely in terms of interpreters' needs (Lee 2002: 603) but also, and more importantly, in terms of quality, involving both accuracy of translation and delivery as perceived by the target audience, i.e. in compliance with user expectations.

As already noted in Barik (1973), lag is not constant, conditioned instead by a range of external factors: "Delays [lag] do not lend themselves to straightforward statistical distribution: rather, they vary over time, becoming shorter or longer depending on variations both in the original speech and in the translation." (Oléron and Nanpon 1965/2002: 47). Based on the results of an experiment carried out with 16 professional interpreters, the authors concluded that:

> […] time lag is not determined solely by the interpreter's constant 'preferred' distance from the speaker, but by other factors as well. The lack of similarity between interpreters suggests that the causes of specific time lags are probably a combination of external and internal determinants, such as subjective perception of speech difficulty, language difficulty, delivery rate, familiarity with the topic, accent, etc. (Tomovará, Dragsted and Gorm Hansen 2011: 136)

Other studies have been conducted to calculate lag for different language pairs, for example Anderson (1994: 114) observed a lag of 2.80-2.98 seconds depending upon the language (English and French respectively), while Oléron and Nanpon (1965/2002: 46) calculated an average 1.90-5.40 second lag depending on the language pair over a total range of 0.5-11.1 seconds. This wide variation is partially ascribed by the authors to the rate of delivery, with an increased rate causing an increase in lag (Oléron and Nanpon 1965/2002: 46). This apparently counterintuitive reasoning, later confirmed experimentally by Gerver (1969/2002: 63), can be accounted for by excessive speed in the original becoming so great that the interpreter abandons the strict simultaneous mode *per se* in order to increase comprehension potential, whilst at the same time running the risk of overloading short-term memory (Gile 2009: 204), resorting to a 'pseudo-consecutive approach' involving wholesale summarising with accumulated lag (Gile 2009: 204 and 225).

Based on the theoretical considerations discussed above, the initial working hypothesis of this paper is that the use of visual presentations is likely to be a factor affecting lag which, although varying over the entire speech, could be expected to display an overall decrease in order to heighten synchronicity between what is seen and what is heard by the public at any one time.

3. Methodology

In order to test the hypothesis, a cursory pilot test was conducted in order to assess the feasibility of a more in-depth follow-up study. The approach adopted was observational, using data taken from real-life cases rather than experimental (see Gile 1998: 69).

While an experimental approach allows researchers to control variables, e.g. delivery rate, which has been shown to directly affect lag (Lee 2002), ensuring that homogenous groups of subjects interpret the same text on the same subject and level of difficulty, intonation and accent and, in the case in hand, the number, rate and content of the accompanying slides, such an approach also presents a series of drawbacks, not least the contrived nature of experiments which fail to mirror real-life experience by removing the quintessential target public, potentially affecting the behaviour of the subjects (Gile 2009: 60), further exacerbated by their awareness that their performance is to be appraised regardless of blinding (Adair 1984: 334). This can be compounded by the 'experimenter effect' (Gile 2009: 66), whereby researchers are liable to unwittingly influence participants in order to confirm the working hypothesis (Finkelstein 1976: 31).

It is also generally unfeasible to recruit significant numbers of experienced professionals to interpret various speeches of a suitable length at the same place and time, to which end much experimental research in the field relies on student participation (e.g. Gerver 2007; Bartlomiejczyk 2006; Gile 1995; Alonso Bacigalupe 1999a, 1999b). It is, however, debatable to what extent inexperienced students working in laboratory conditions can be taken as a faithful reflection of professional practice, a concern voiced by McNemar as early as 1946.

Conversely, while impeding effective control of all of the factors involved, several experimental shortcomings can be resolved by collecting and analysing data from real-life interpreting events. A modicum of control is, nevertheless required, preferably dual-track recordings (Tomovará, Dragsted and Gorm Hansen 2011: 135) in order to guarantee that any lag detected faithfully reflects that which actually occurred during the event itself, which makes genuine material for analysis difficult to obtain in any significant quantity.

Despite the weaknesses associated with the methodology adopted in this pilot study, not least the reduced scale of the data pool, this paper takes the view that genuine, spontaneous data provides a more *bona fide* source for analysis than *ad hoc* experimental data by effectively avoiding observer bias and reflecting real-life professional practice.

4. Pilot Study

A preliminary pilot study was conducted in order to test the viability of the hypothesis and the feasibility of the methodology proposed, to be pursued in broader-based

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follow-up studies. While the minimal scale of the study renders the results statistically irrelevant as such, they nevertheless do open the way for rethinking the relationship between lag and oral/audio-visual synchronicity when speeches are accompanied by visual support.
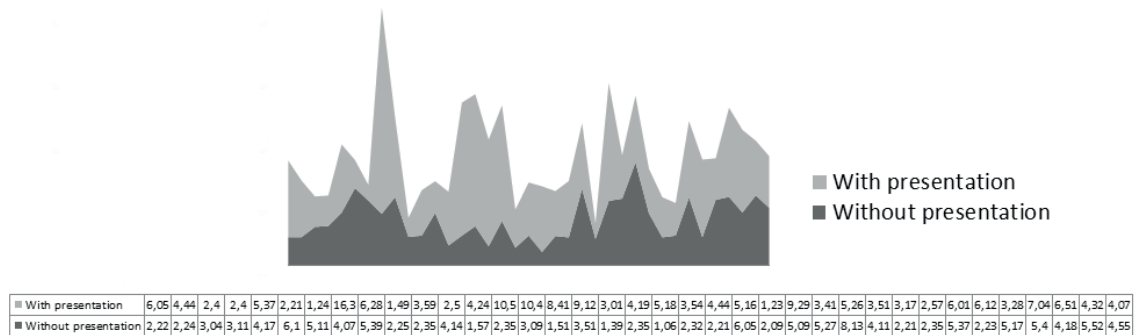
The subject was an experienced professional working into his mother tongues (Spanish and Galician), sufficiently similar structurally to rule out any slight linguistic variance having any significant bearing on the results. In both cases, the original was delivered in native standard American English. The extracts were of a similar length (193 words without presentation and 1.404 words with presentation[2]) and speed (144.75 and 140.87 words/minute respectively) taken from the central sections of longer speeches. The subject matter (dairy farming and fish farming) was gauged to be similar in both cases based on the interpreter's professional experience.

The methodology adopted follows that described as standard: "[…] points of measurement were identified in the source text and marked with a cue. A second marker was inserted at the beginning of the corresponding segment in the interpretation." (Tomovará, Dragsted, and Gorm Hansen 2011: 135). In total, 37 markers[3] taken at as regular intervals[4] as possible were finally retained in both texts. There is evidence to suggest (Tomovará, Dragsted, and Gorm Hansen 2011: 138) that lag varies depending upon word class and/or sentence type. In this analysis, therefore, only nouns were used as reference cues based on the assumption that this is the word class most likely to coincide across languages in the language pair under study, regardless of the actual translation, e.g. 'aerators' translated as 'aparatos' (lit. apparatus') or 'cost' translated as 'prezos' (lit. 'prices'), while generally avoiding nouns qualified by adjectives owing to the different word order, although any deviations arising due to this factor would tend be largely dissipated by the extensive number of markers and would not, therefore, distort the overall picture.

The average lag for the text without an accompanying visual PowerPoint presentation was 3.79 seconds. However, as the following graph (Fig. 1) shows, considerable variations occurred as expected throughout the interpretation, ranging from 1.06-8.13 at the lowest and highest points respectively, with the lag returning to a generally lower rate (approx. 2-3 seconds) following peaks responding to increased lag due to the need to resolve punctual problems (e.g. translation of a particular item, understanding a particular item or segment, etc.).

The average lag for the text with an accompanying PowerPoint presentation was 5.09, significantly higher (+1.3 seconds) than in the text without a visual presentation, fluctuating between 1.23-16.26 at the lowest and highest points respectively, both actually higher than in the text without slides, and the highest point considerably so. There are also significantly more and higher peaks than in the text without slides. The general working lag was in the order of approx. 3-4.5 seconds.

Fig. 1: Comparative EVS with and without visual slide presentation

| With presentation | 6,05 | 4,44 | 2,4 | 2,4 | 5,37 | 2,21 | 1,24 | 16,3 | 6,28 | 1,49 | 3,59 | 2,5 | 4,24 | 10,5 | 10,4 | 8,41 | 9,12 | 3,01 | 4,19 | 5,18 | 3,54 | 4,44 | 5,16 | 1,23 | 9,29 | 3,41 | 5,26 | 3,51 | 3,17 | 2,57 | 6,01 | 6,12 | 3,28 | 7,04 | 6,51 | 4,32 | 4,07 |
| Without presentation | 2,22 | 2,24 | 3,04 | 3,11 | 4,17 | 6,1 | 5,11 | 4,07 | 5,39 | 2,25 | 2,35 | 4,14 | 1,57 | 2,35 | 3,09 | 1,51 | 3,51 | 1,39 | 2,35 | 1,06 | 2,32 | 2,21 | 6,05 | 2,09 | 5,09 | 5,27 | 8,13 | 4,11 | 2,21 | 2,35 | 5,37 | 2,23 | 5,17 | 5,4 | 4,18 | 5,52 | 4,55 |

Not only is the average lag significantly higher (+1.3 seconds) in the text with a presentation, but is also at the highest end of the usual lag range described in the literature. A swing of this magnitude is striking for one and the same interpreter and calls for the formulation of an alternative hypothesis to be explored in further research drawing on a broader data pool.

5. Discussion

Owing to the minimal sample analysed, the large disparity noted between the two interpretations could be due to a range of factors which fall beyond the control of any such case study, ranging from fatigue, especially involving the length of time the interpreter had been working in each case prior to the segment studied, although it should be note that both curves in Fig. 1 display a similar pattern of lag variance over time.

Notwithstanding these reservations, however, the results, albeit only tentative, are interesting inasmuch as they provide wholly unexpected data, actually going strongly against the initial hypothesis and calling, therefore, for the need to contemplate an alternative hypothesis apparently diametrically opposed to the original working hypothesis: namely that the use of accompanying visual presentations might actually increase rather than reduce lag.

While this increased lag observed may appear to contradict the need for visual-oral synchronicity, a closer analysis of the actual contents of the interpreted text reveals that the subject does in fact keep up with moves from one slide to the next based on audio cues such as "As you can see in this slide", etc. This is possible because, unlike media interpreting alluded to earlier as a possible reference model, the use of slides is sequential rather than continuous, which means that an interpreter can keep up with the slides whilst at the same time avoiding dropping behind between slides.

The increased lag could possibly be ascribed to the fact that the visual slides actually detract from the normal SI process, with the interpreter diverting attention from the oral source text, used as a cue, while scanning the slides in search of relevant information. This hypothesis is supported by the fact that exact markers were more

difficult to locate in the interpretation of the text with slides which was generally less of an 'accurate' match regarding the source text than that without slides.

Further studies with a broader sample base would be required to confirm this new hypothesis. However, these opposing hypotheses need not necessarily be mutually exclusive and could potentially be employed as alternative strategies by interpreters depending upon the specific characteristics of the source text and the way it relates to the accompanying visual presentations.

6. Conclusions

The results of the preliminary pilot study tend to refute the original working hypothesis that the use of accompanying visual presentations would lead to a decrease in lag in order to guarantee visual-audio synchronicity between what the public are hearing and what they can see. The media interpreting model on which this hypothesis is based may, therefore, not be appropriate as initially thought owing to the sequential rather than the continuous nature of the visual input, effectively making it possible to maintain overall synchronicity with the slides as they appear without requiring a reduction in lag.

An alternative hypothesis arises based on the tentative results indicating that the use of slides may actually detract from the normal simultaneous technique, instead taking cues from the oral source text while searching for the relevant information on the slides, effectively increasing rather than decreasing lag.

These alternative models could be complementary depending upon the nature of the source text and its relationship to the visual input and, given the increasingly frequent use of PowerPoint presentations, were either or both hypotheses to be confirmed in further, broader studies, trainee interpreters would benefit from exposure to audio-visual source texts of this kind.

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Notes

1. Microsoft PowerPoint is a proprietary commercial presentation program developed by Microsoft. While other programmes may be used, this is particularly common.

2. The difference in length was due to the difficulties encountered in locating suitable markers in the text with a presentation.

3. More markers were originally selected in the source text. However, due to rephrasing, on several occasions no suitable equivalent reference markers were locatable in the interpreted text. This is one of the problems which can arise when using the method described and more mismatches of this kind could be expected when comparing the same text interpreted by a range of different subjects.

4. Timings were made using Audacity (http://audacity.sourceforge.net), a free open source digital audio editor which displays a spectrogram ensuring accurate measurement of word boundaries to a hundredth of a second.