Theses of PhD dissertation

Tóth Andrea

The study of pauses and hesitations in conference interpreters’ target language output

Eötvös Loránd University
Doctoral School of Linguistics
Doctoral Programme of Translation Studies

Consultant: Dr. Lengyel Zsolt CSc

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Introduction

Spontaneous speech production is preceded by two stages of message planning: macroplanning and microplanning. “The speaker’s planning of a speech act, his selection of information to be expressed, and his linearization of that information are called macroplanning” (Levelt 1993: 3). Microplanning, on the other hand, divides that information into smaller conceptual ‘chunks’ which are given the correct propositional shape and informational perspective (Levelt 1989).

The two processes often occur simultaneously, the speaker is not even aware of the two different kinds of processes. While we are in the process of deciding what we intend to say (thoughts), the word selection from the mental lexicon and the grammatical encoding already start.

Interpreting is a special case of speech perception and speech production, and as such it differs from monolingual spontaneous speech at several points. These differences can be summarized as follows:

1. Speech perception and speech production occur in different languages, there is a transcoding phase in between. Therefore in case the source text is not deleted instantly, there may be structural and/or lexical interferences.
2. „Despite the transcoding phase the source language perception and the target language production may overlap in time”¹ (Klaudy 1997: 40), therefore attention division gains a more emphasized role in the process.
3. „Segmentation (breaking the text up into discrete units) happens underway during which an appropriate time lag needs to be established”¹ (G. Láng 2005: 163).
4. Since the text to be interpreted is incomplete, the reconstruction of the message happens through partial perception.
5. „Two completely different strategies need to be followed to communicate the speaker’s message. The interpreter follows a different strategy from the linguistic form to the thought and from the thought to the linguistic form, almost simultaneously”¹ (Klaudy 1997: 40).
6. Interpreting is a process governed by an external programme, the thoughts to be expressed are not the interpreters’ own thoughts, which makes speech production even more difficult (Leontyev 1969 cited by Klaudy 1994, 1997).

¹ Translated by Tóth A.
7. Due to this external programme the interpreters’ motivation is also different. They do not satisfy their own communication demands, therefore (in contrast to monolingual speech production) interpreting is characterized by indirect motivation (Klaudy 1994, 1997).

8. “Resources are available in a limited degree (for instance, time, short-term memory, processing capacity)”\(^2\) (G. Láng 2005: 164).

According to Grosjean (1999) during simultaneous interpreting the two languages are in a bilingual mode (both are active), the output mechanisms are in a monolingual mode (only one language is normally output) whereas the input mechanisms are in a bilingual mode (input takes place in the source and sometimes in the target language).

**Theoretical background**

Pauses play a significant role both in speech production and speech perception. In speech production they contribute to the physiological necessity such as breathing, 2) they have a semantic function, and 3) they provide time to cope with difficulties which can arise at any point in the speech production cycle (Butterworth 1980, Gósy 1998, 2004, Piccalague et al. 2005). In speech perception they serve 1) to assist the listener in his task of understanding the speaker and 2) to decrease uncertainty (Gósy 1998, 2004).

Besides silent pauses, the function of filled pauses is also manifold. They may occur when the speaker is still uncertain of the message to be delivered (Levelt 1989), though hesitates in order to indicate his communicative intention.

„Hesitations [...] form an integral part of speech production in the positive sense, a view quite in opposition to the attitude that there is fluency on one hand and hesitancy on the other. Not only are hesitations a normal component of fluency if they occur in moderation, but now pauses can actually be considered wellformedness phenomena rather than disfluencies, at least as far as they serve as devices by the speaker to produce more error-free, high-quality speech” (Hieke 1981: 150).

These features may co-occur also during the performances of interpreters. For instance, difficulties in the syntactic or lexical planning of the discourse coincide with the occurrence of hesitation pauses. Hesitation pauses do not follow any distribution rules, since they are spontaneous and due to on-line planning, lexical difficulties, etc. Hence a regular distribution of pauses may only be recorded in read texts (Pichler 1995 as cited in Cecot 2001), in which

\(^2\) Translated by Tóth A.
there is no need for on-line planning. The duration and distribution of pauses depend on the individual physiology of the speaker (breathing pauses), on the production task (reading or spontaneous speech - lexical or syntactic planning pauses) and on the communicative intentions of the speaker (rhetorical pauses) (Cecot 2001, Piccalagua et al. 2005).

**Simultaneous interpreting and pause occurrence**

During the interpreting process, various factors can affect pauses, or cause them to appear when, under ordinary conditions, they would not be observed. Silences may be linked to difficulties in comprehending the initial message, and to various processes, such as searching for an equivalent translation of the source term in the target language, and indeed difficulty in expressing the concepts in the target language (Piccaluge et al 2005). Consequently, it would be reasonable to think that the proliferation and/or lengthening of these pauses is linked to difficulties of various kinds in performing the complex task of interpreting.

Early studies like those by Barik (1973), Gerver (1969), Goldman-Eisler (1967, 1968, 1972, 1980) and Goldman-Eisler & Cohen (1974) were carried out in laboratory settings. Most concentrated on pauses, which were regarded as the key to the simultaneous task of listening/understanding and speaking.

Goldman-Eisler (1961, 1968) studied the relation between periods of inactivity and periods of activity in speaking, which means the relation between pauses and linguistic production. On the basis of her investigations, Goldman-Eisler (1961) noted that pauses follow a certain scheme and that they determine speech rate, which is a personal characteristic of the speaker. Goldman-Eisler (1968) analysed the occurrence of hesitations in interviews and in simultaneously interpreted texts. According to the results of these studies, hesitation pauses signal content, syntactic and lexical planning. Even in the case of interpreters, syntactic and lexical planning may lead to hesitations, which increase in number when interpreters change the source text structure.

Alexieva (1988) analyzed the pause patterns in the outputs of student interpreters and made the following assumption:

“I shall subscribe to the suggestion that the number and length of pauses in the Interpreter’s output is usually smaller than those in the Source Language text” Alexieva 1988: 485).

One of the few studies that deal with the double function of pauses in SI is Čeňková’s *L’importance des pauses en interprétation simultanée* (1989 as cited in Tissi 2000). First of
all she confirms that parallel listening and speaking by the interpreter is a given, though related to the speaker’s elocution speed and the number and duration of pauses in his speech. She stresses the double role of pauses, namely in the ST to facilitate decoding and in the TT for segmentation by the interpreter. Her experiments confirm the importance of pauses for message segmentation but also the difficulty experienced by the interpreter in exploiting them because of their short duration. Čeňková introduces a new definition of pauses, which are understood not only as interruptions in the flow of speech but also as significant variations in intonation and rhythm or even the juxtaposition of two semantically independent items. The pause is no longer an objectively quantifiable silence but rather an item depending on the interpreter’s and the listener’s perception.

Lee (1999) investigated the relationship between pauses in the source and target texts, and found that pauses in the ST are indispensable for the cognitive operations needed for the top-down processing and monitoring of SI. This is seen as the explanation why STs with few pauses result in less accurate TTs.

A more recent study (Tissi 2000) analyses non-fluencies in the source and target texts from a quantitative and qualitative point of view, in order to investigate possible correlations between the occurrences in the texts. The results of the quantitative analysis show that pause occurrences in the source text and in the interpreters’ deliveries are certainly related, yet the influence is not as direct as one could assume. Target texts contain fewer, but altogether longer silent pauses than the source text, and they have a slightly higher number of grammatical pauses. The only parallel trend for these occurrences seems to be their distribution within the different durations. Both the source text and the target texts have a much higher incidence of occurrences in the intervals from 0.25 to 1.25 seconds, however, the target texts show a remarkable incidence of pauses from 2.5 to 5 and from 5 seconds up.

Piccaluge (et. al 2005) carried out an analysis focusing on the number and duration of silent pauses in the productions of subjects involved in simultaneous interpreting tasks in French to Spanish and Spanish to French combinations. According to the results the number of pauses is revealed to be sensitive to the level of interpreting expertise, while the pause duration seems to be sensitive to linguistic expertise. The subject with the greatest linguistic and interpreting expertise made a large number of short pauses, conversely, the student subject, whose expertise both in language and interpreting was lacking, made fewer pauses but these were rather long, which probably illustrates disorganization in the production of the target language linked to various breakdowns in the interpretative process.
The aim and hypotheses of the present research

The aim of the present research is the quantitative and qualitative analysis of silent pauses and hesitations occurring in conference interpreters’ speech production on the basis of interpreted texts. In Hungary exclusively one other research (Bakti 2010) has dealt with a similar topic, namely the disfluencies occurring in conference interpreters’ target language output.

The analysis of pauses and hesitations may contribute to the understanding of the processes connected to speech planning, self-monitoring and self-correction. The emphasis on these two phenomena is justified by their high degree of occurrence, therefore statements may be concluded on a considerably high number of data. The other reason is that both may appear in several functions, from conceptual planning to error correction.

The hypotheses of the empirical research by topic:

1. **The occurrence, length and position of silent pauses.** In simultaneous interpreting silent pauses occur more frequently and are of longer duration than in monolingual impromptu speech. Their position does not in all cases serve the semantic and syntactic segmentation. However, professional interpreters are less influenced by the simultaneity of listening and speaking than trainee interpreters, their pausing values are approaching the values characteristic for monolingual spontaneous speech.

2. **The examination of filled pauses.** The target language output of simultaneous interpreters are characterised by uncertain speech planning and articulation, the occurrence of filled pauses is higher than in spontaneous speech. In regard to their function, they primarily indicate uncertainty in the speech planning processes.

3. **The correlation between silent and filled pauses.** The most frequently occurring combination of silent and filled pauses in the case of trainee interpreters is the hesitation followed by silent pause. However, in the corpus of professional interpreters the most frequently occurring combination is the hesitation preceded by silent pause. The mental energy management of trainees and professional interpreters are different: the former is more engaged in the source language output, while the latter pays more attention to the target language output.

4. **The position and length of silent pauses in the immediate environment of filled pauses and lengthenings.** The professional interpreters can use more mental energy for the target language output, therefore the duration of silent pauses before and after filled pauses is more
balanced than in the case of trainees. The professional interpreters can bridge the disharmony in the planning and correction processes with more confidence and within a shorter time. However, the pauses preceding vowel and consonant prolongations are of longer duration than those following them. The duration of these pause are the shortest in the case of professionals. The tight pace does not leave time for managing disharmonies in the production processes.

5. **The exploitation of source language pauses in simultaneous interpreting.** On the basis of the corpus analysis carried out in the present research it can be claimed that in simultaneous interpreting the source language pauses cannot be exploited because of their short duration. Significant amount of mental energy cannot free up.

6. **The use of the method of retrospection for the analysis of interpreters’ target language speech production.** After given interpreting task the thoughts that emerge in the mind during the interpreting process can be retrieved. When recording a retrospective interview it is a significant aspect to record it directly after the given task since at that point several pieces of information can still be retrieved from the short term memory (Ericsson és Simon 1999). The comments of retrospective interviews are primarily connected to monitoring and translation. During their training period and work experience the conference interpreters gradually develop how to divide their attention effectively, therefore in the course of interpreting they concentrate their attention mainly on the quality of the target language output.

**Material, method and subjects**

The basis for the empirical research discussed in the present dissertation is given by the corpora of conference interpreters and trainee interpreters, and the spontaneous narrations the conference interpreters.

The theoretical framework to the analysis is provided by Levelt’s speech production model (1989) and Gósy’s disfluency taxonomy (2004). Retrospective thinking aloud protocols were recorded to complement our empirical research.

The trainees’ recordings were made in the International Interpreters’ and Translators’ Training Centre of Budapest University of Technology and Economics in May 2008 while the corpus (the interpreted texts, the spontaneous speech and the retrospective interviews) gained from the conference interpreters was recorded in the Interpreters’ and Translators’ Training Department of Eötvös Loránd University in June 2009.
The source text in the research was the political speech held in the conference of FSIA (Food Safety Institute of the Americas) on 11th March 2004, titled *Five years on – food safety in Europe*.

Six conference interpreters and seven trainee interpreters took part in the research. Each participant was tested individually. 63 minutes of interpreted text and 24 minutes of spontaneous speech were analyzed to examine pauses and hesitation phenomena. The retrospective interviews complementing the research itself are about 60 minutes long.

**Results and discussion**

1. In the target language texts of the trainee interpreters pausing ranges from 24.64% to 34.97%, while the rate of silent pauses ranges from 17% to 24.91% in the corpus gained from the conference interpreters, the individual differences were not significant.


   The results of the present research support that conference interpreters are less disturbed by noise, i.e. by the simultaneity of speech perception and speech production. On the contrary, more frequent and longer pauses in the corpus of trainee interpreters imply that both the transformation and the lexical retrieval processes took more time and required more control.

   Since the fundamental function of pauses is the segmentation speech units, we examined the number of silent and filled pauses or their combinations occurring on the border of units. The only difference between the results of trainees and conference interpreters was observed in case of short (between 100 and 500 ms) silent pauses: conference interpreters made approximately twice as many pauses in this time period as the trainees irrespectively of unit borders.

   These results show that the conference interpreters rather make more (less perceptible) short pauses irrespectively of their position. Presumably, they are able to do that because in most of the cases they do not need to wait for entire units to finish since they are able to predict them due to their anticipation skills.

   Considering typical pause length the majority of pauses occurred in the domain from 250 to 750 ms in case of the trainees, while from 200 to 500 ms in case of conference interpreters. The pausing values of professionals approximate to the pausing characteristic for spontaneous
speech production, which affects the quality of interpreting in a positive way.

2. In the target language texts of trainees and professional filled pauses occurred more than twice compared to their occurrence in the spontaneous narrations. As in noisy environment the frequency of filled pauses increased in the interpreted texts. The majority of filled pauses occurred in the form of a sound resembling phoneme [ə], which was produced in various period both by the trainees and professionals.

The results of the examination dealing with the functions of filled pauses reveal that irrespectively of the type of the task filled pauses primarily indicate uncertainty in the speech planning process, secondly they convey communicative intention. In the target language texts 26 and 27% of filled pauses served to indicate communicative intention, while 15% in the spontaneous narrations. These occurred predominantly at the beginning of speech units. Their relatively high proportion in the interpreted corpora was due to the hesitations caused by the ear voice span. During this examination the following methodological difficulty occurred: in the target language texts it is not always possible to define the reason for the occurrence of filled pauses in any of the categories due to the temporal overlap of speech perception and speech production.

3. Both the trainee interpreters and the professionals produced silent or filled pauses 18 times within words. The majority of such pauses preceded affix morphemes in the target texts of both trainees and professionals, which indicates the problem of morphologi and syntactic planning. In the spontaneous narrations pauses within words frequently occurred on the definite article az, which was prevailing in the interpreted corpus.

4. In the target language texts of trainee interpreters 57 lengthenings were registered (52 vowel lengthenings and 5 consonant lengthenings), in the corpus of professionals the number of lengthenings was 54 (47 vowel lengthenings and 7 consonant lengthenings), whereas in the spontaneous narratives that was altogether 16 (14 vowel lengthenings and 2 consonant lengthenings). The duration of the shortest lengthening was 174 ms, and the longest was 648 ms.

The high occurrence of lengthenings in the interpreted texts may be caused by 1) the lack of mental energy due to the temporal overlap of speech perception and speech production, 2) difficulties in the speech planning process, or 3) the lengthenings occurred due to the time period needed for the retrieval of the adequate lexical unit.

Professionals presumaply applied lengthening as an alternative strategy in order to protect teh speech planning mechanism as it is done by speakers under noisy conditions when in
spontaneous speech production the proportion of restarts and repetitions significantly increase (Gósy 2007). On the other hand, in case of trainee interpreters we rather face speech perception and/or production disharmony.

Both in the interpreted texts and spontaneous narrations the highest proportion of lengthening was registered on vowels. Besides, the lengthening of a certain phoneme of conjunctions occurred, primarily in the spontaneous narratives. We registered lengthening on nouns and adjectives: on nouns predominantly in the corpus of professional interpreters and their narrations, while on adjectives exclusively in the interpreted texts. In all three texts the least lengthening occurred on verbs.

Most of the lengthenings (in accordance with similar research) were registered in initial position in case of all three corpora. The fact that the lengthening of the definite article a has also been classified into this category might have contributed this result.

5. This study was intended to find answers to what position silent pauses occur in the environment of filled pauses and in what proportion. Four different categories were defined for the combination of silent and filled pauses: 1) the hesitation is neither preceded nor followed by a silent pause, 2) the hesitation is preceded by a silent pause, 3) the hesitation is followed by a silent pause, 4) the hesitation is both preceded and followed by a silent pause.

In the corpora of trainees and professionals certain combinations of a hesitation and a silent pause occurred primarily. In case of trainee interpreters the ratio (21 %) of pauses preceding hesitations was approximately half the ratio (39 %) registered in the case of professional interpreters. The proportion of silent pauses following hesitations had a reversed result: trainee interpreters made twice as many (32 %) silent pauses following hesitations as professional interpreters (15 %).

The ration of the combination of the three elements (silent pause + hesitation + silent pause) revealed merely 2 % difference (14 and 16 %), this combination – also by its duration – indicates the utmost difficulty in lexical retrieval (Figure 1).
The silent pause following hesitations and the silent pause + hesitation + silent pause combination occurred in the spontaneous narrations in higher proportion than in the interpreted corpora. On the other hand, the silent pauses preceded by hesitations represented itself in higher proportion in the target texts of professional interpreters.

The silent pauses preceded by filled pauses occurred twice as frequently in the interpreted texts as in the spontaneous corpus (39 és 23 %). One possible explanation is that the professional interpreters made an attempt to bridge the emerging difficulty during the period of a less noticable silent pause in order to maintain the quality of the interpretation, and produced a filled pause whenever they failed to succeed during the period of this silent pause.

6. To reveal pause exploitation we made an attempt to define a correlation between the increase of the duration of source text pauses and the increase of target language speech tempo. This correlation was studied both in the target language texts of trainee interpreters and professional interpreters. We presumed that pause exploitation would increase in the effect of gaining practice since the professionals can pay better attention to the production of the target language text.

In the source language texts the duration of pauses increased merely four times, by minimum 0.35 and by maximum 2.45 seconds. On the other hand, the trainee interpreters exploited merely one opportunity while the professionals none. The results of this study fundamentally undermined the possibility of pause exploitation in the source language text during simultaneous interpretation since the differences in the duration of pauses in the source language were so minimal that they allowed the utterance of some syllables at most; during this short time period no significant amount of mental energy can be freed up.
Bibliography


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