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Speech errors in simultaneously interpreted German target language texts. A descriptive analysis

A tanulmány célja egy angolról németre szinkrontolmácsolt korpuszban, az ICSB-korpuszban előforduló megakadások feltérképezése, illetve ezeknek összehasonlítása a spontán német beszédben (Kettemann, 2010; Marx, 1999) és a németről angolra szinkrontolmácsolt szövegekben előforduló megakadásokkal.
Eredményeink azt mutatják, hogy a vizsgált korpuszban előforduló szinkrontolmácsolt szövegek megakadás-mintázatát nem csak a szinkrontolmácsolás specifikus beszédprodukciós körülményei, hanem a célnyelv is meghatározza.

1. Introduction

Speech errors are seen as natural windows to the speaker's mind, in other words they reveal speech planning and execution regularities that are otherwise not accessible for observation (Shattuck-Hufnagel, 1979). Gósy defines the somewhat broader category of speech disfluencies as unintentional "phenomena that interrupt the flow of speech and do not add prepositional content to an utterance" (2007: 93).

The following categories are used to describe *error-type disfluencies* or speech errors: false word, grammar errors, blends, false starts, TOT (tip-of-the-tongue), ordering problems (perseveration, anticipation, metathesis), simple slips (addition, deletion, exchange) and errors that might have multiple causes (Gósy et al., 2009; Gyarmathy, 2015). In addition to these categories, there are disfluencies that are related to the *uncertainty* of the speaker, which include pauses, filled pauses, repetitions, fillers, lengthening, and restarts (Gyarmathy, 2015). Speech disfluencies can be linked to the malfunctions at a given level of the speech production process (Levelt, 1989) and have contributed to a better understanding of monolingual and bilingual speech planning and speech

production. The analysis of speech disfluencies is a useful tool in investigating speech production in various languages and various settings, and although speech disfluencies "might differ across languages, across individuals, and across occasions, error mechanisms ought to be both speaker – and language universal" (Cutler, 1981: 56).

In a comparison of slips occurring in German and English, Berg identifies *universal* phonological, morphological, and lexical characteristics (Berg, 1987). On phoneme level, slips related to consonants are more frequent than slips related to vowels. In addition, plosives occur in slips more frequently than fricatives. Most of the slips occur in word or syllable initial position and slips mostly occur in open word classes (Berg, 1987). On morphological level, word stems and suffixes do not mix in slips (Berg, 1987). From a lexical perspective, the sources and targets of slips belong to the same word class, nouns being the most frequent word class involved in slips, followed by verbs and adjectives (Berg, 1987).

Berg also lists some *language-specific differences* between slips occurring in the two languages. In German slips there is dissociation between vowel length and the vowel, while in English there is not. Second, there are differences in voicing in English and German slips. Third, in English a common error type is the loss of an inflectional ending; this error type does not occur in the German corpora. Last, syllable deletion errors in a word-initial position are more frequent in German than in English (Berg, 1987).

Gender and errors related to gender encoding are of particular importance in psycholinguistic research, as these errors can provide information on open questions related to the degree of interaction between lexical selection mechanisms, syntactic processing mechanisms and phonological encoding (Kormos, 2006; Levelt, 1989).

Empirical evidence has shown that the grammatical gender of a word is accessed 40 ms earlier than its phonological form (van Turennout, Hagoort and Brown, 1998). This suggests that the gender information of a noun should become available during lemma access, before the phonological properties of a noun are retrieved.

Berg (1992) found that in noun substitution speech errors in spontaneous German, intended and uttered nouns have the same grammatical gender more often than can be explained by chance. Marx (1999) also examined the "gender identical effect" in German speech errors. Her findings are similar to those of Berg (1992), namely that in German noun substitution errors intended and intruding nouns were more often of the same grammatical gender than could be expected by chance. She also found that gender agreement between nouns and preceding articles depends on the processing level at which the noun error occurs, in other words errors related to the first stage of lexical access, lemma selection, are corrected more often than errors related to the second stage of

lexical access, word from processing. Marx states that her results are consistent with the two-stage models of lexical retrieval and speech production, according to which the syntactic information, including the gender of a noun, is represented during the first stage of lexical access (Marx, 1999).

During simultaneous interpreting (SI), lexical selection happens differently from spontaneous monolingual speech. During SI, speech macroplanning is dependent on the source language (SL) message, and lemma selection is also determined by the SL message. Lemma selection is not speaker-driven, as lemmas are selected on the basis of the SL message. However, the road from lemma to lexeme or word from selection is the same during spontaneous speech and SI.

In contrast to Levelt's (1989) model, in SI the place of the Conceptualizer, which creates the preverbal message, is replaced by the whole apparatus of comprehension (Setton, 1999). As for target language (TL) formulation (Microplanning and Encoding), Setton states that the main processing route in professional translation is via conceptual and intentional representation, but points to the existence of several partial short cuts, in other words in these cases "the Executive may take uncontextualised fragments from the Assembler to feed Formulation" (Setton, 1999:94). Sometimes even a bare phonetic string is repeated and inserted consciously into a corresponding syntactic slot in the TL output (Setton, 1999). During SI, selection and formulation are limited by the TL proficiency of the simultaneous interpreter (Setton, 1999).

The process of speech production and the resulting slips have received limited research attention to date in Interpreting Studies. The question of speech errors in interpreting was raised by Pöchhacker (1995). He looks at two major classes of text-surface disruptions, *slips of the tongue* and *structure shifts*, in the ICSB corpus. The former class comprises of corrected and uncorrected slips, the second one of false starts, lexical blends and syntactic blends (1995). In his corpus, Pöchhacker compares and contrasts data for the five types of text-surface disruptions in terms of text producers (original- interpretation), language (English-German), and language use (native- non-native) (Pöchhacker, 1995: 79). The results show that the most frequent text-surface disruptions were false starts, which include lexical items, phrases or clauses which were unfinished as the interpreter or the speaker decided to change the utterance (Pöchhacker, 1995).

Pöchhacker acknowledges that "this categorization scheme is rather coarse" (Pöchhacker, 1995: 76), but also stresses that his investigation was not undertaken from a psycholinguistic perspective, instead, his aim was to provide a "product-oriented approach to the comparative examination of speech output in the specific context of SI" (Pöchhacker, 1995: 77).

In a pilot study Kusztor and Bakti examined speech errors in four English and four German TL texts from the ICSB Corpus (2007). Their hypothesis that

simultaneously interpreted target language texts have a specific speech error pattern as a result of the circumstances under which simultaneous interpreting is performed, was only partially confirmed by their results. As a consequence, the authors then decided to revisit the corpus and analyze speech errors in the English and German TL texts from a psycholinguistic perspective.

In this paper, our intention was twofold. First, we wished to provide a psycholinguistic analysis of the speech errors in the German TL texts of the ICSB corpus. Second, in order to put the results in context, we compare the results with the speech error pattern of spontaneous German and also with the speech error pattern of simultaneously interpreted English TL texts.

Our research questions were the following:

1) What is the speech error pattern of the German TL texts in the ICSB corpus?

2) In what ways is this pattern comparable to the speech error pattern of spontaneous German and the speech error pattern of simultaneously interpreted English TL texts?

We worked with the following hypothesis:

There will be mix of language-universal, and SI-specific and language-specific speech error pattern in the simultaneously interpreted TL texts. Restarts characterize speech production in speech noise and attention sharing, (Delayed Auditory Feedback condition) and these errors will be present in the German TL texts, as they are characteristics of simultaneously interpreted texts (Bakti, 2009b, Spiller-Bostara and Daró, 1992). However, because of the complex morphology of German, and its fixed word order, the speech error pattern will be also be characterized by a high incidence of grammar errors.

2. Methodology

Researching the ICSB corpus is a valuable contribution to the literature on disfluencies in SI, as this corpus was recorded in an authentic conference setting, thus it is ecologically valid, but does not allow the controlled examination of different variables (Shlesinger, 2000; Gile, 1997, 1998, 2000). However, this material is more extensive than recordings made in a language lab.

The ICSB Corpus contains 145 English and German texts from the 36th World Congress of the International Council for Small Businesses (ICSB), which was held between June 24 and 26 1991, in Vienna.

The direction of interpretation in the texts analyzed is English into German and German into English; three conference interpreters provided simultaneous interpreting services for these language pairs, the German into English interpretation was produced by one of these interpreters (Pöchhacker, 1994, 1995). Unfortunately there is no more information available about the interpreters in the monograph (Pöchhacker, 1994) that gives a detailed analysis of the corpus from a functionalist point of view.

In our investigation, we analyzed 105 TL texts from the corpus, these included 8 English TL texts, their length varied between 111 and 3295 words.

Out of the 97 German TL texts we analyzed 22 contained no speech errors. These TL texts were relatively short, the shortest was 4 words, the longest one 236 words, these were mostly short comments from the Chairman of the conference. Speech errors in the remaining 75 German TL texts were analyzed. The longest German TL text contained 3554 words, and the shortest one 12 words.

In our text analysis we used the taxonomy of Gósy et al. (2009), adding the categories of restarts and repetitions. After the first round of analysis some additional categories were added to the original taxonomy to describe speech errors in the TL texts. The results of our text analysis are presented with the modified taxonomy.

One of these additional categories is what Petite refers to as *post-articulatory appropriateness repairs* (2005). Heltai refers to this strategy, also used by translators, as the *use of doublets* (Heltai, 2003), where translators use two synonyms to translate one SL world. Heltai finds that this strategy is resorted to as translators feel that there is no fully equivalent word in the TL, and the synonym is used to cover the residual meaning the first TL word does not cover (Heltai, 2003). Although in a strict sense these errors might be considered as false word errors, in this analysis they are considered as a separate category. This decision was based on evidence from retrospective interviews with interpreters (Bakti, 2009a) and the Effort Models in interpreting (Gile, 1995), according to which extra effort is needed during SI to carry out these repairs.

Petite found that interpreters repair the appropriateness of their utterances by giving a more precise term, thus improving the contextual effect of the utterance for the listener, and also reinforce the content of the utterance (2005). In other words, the interpreter is looking for a word that would be the most appropriate in a given context, even at the cost of significant processing effort. In a strict sense, these repairs are not seen as speech errors, but they signal the decisions the interpreters make under time pressure in order to take into consideration the audience, and also signal a change to the original speech plan. In our analysis, we referred to this phenomenon as *appropriateness repair*. Example (1) shows an appropriateness repair in a German TL text, where the interpreter changes the expression *'durch die Achtung'* to *'auf der Grundlage der Achtung'*. Both expressions would be equally acceptable, maybe the second one is more sophisticated.

(1) SL: Creation of small business on those places in the world where they are insufficiently rooted, together with developing small business through partnerships by using and developing business cooperation programs in all direction, and ***respecting the variety of culture*** *gives a unique possibility to make this decade the decade of development by cooperation.*

TL: Die Reaktion der Wirtschaft in jenen Teilen der Welt, wo die Klein- und Mittelbetriebe zu wenig verwurzelt sind, und die Entwicklung des Mittelstandes durch die Nutzung des Instrumentariums der EG und ***durch die Achtung auf der Grundlage der Achtung der kulturellen Differenzen*** *gibt uns eine einmalige Chance, dieses Jahrzehnt zum Jahrzehnt des Wachstums für die Unternehmen zu machen.*

Another category that is not included in the original taxonomy is the category of *disfluency chains*. These are speech errors that are a combination of several errors due to some planning, performance or execution difficulty. They have been described in spontaneous speech (Gósy, 2012), and also characterize SI. These phenomena signal activation spreading and are defined as "two or more disfluencies on the surface following one another, or having a maximum of two content words in between the two disfluencies" (Gósy, 2012: 109).

In Example (2) in the German TL text the interpreter corrects the preposition *aus* to the definite article *den* without repeating the names of the countries, then repeats the definite article *den*.

(2) SL: but there's some very interesting now possibilities of taking your products from one of these countries like Hungary an·and Poland
TL: und es gibt hier interessante Möglichkeiten, die Produkte ***aus Ländern wie Polen und_nd Ungarn abzunehm den den*** *Ländern abzunehmen*

Following the analysis of the German target language texts, we compared the results with the speech error patterns of spontaneous German. One of the most important problems in comparing speech error patterns and frequencies is that in many cases researchers use different taxonomies and there seems to be little agreement regarding a unified taxonomy, thus it is difficult to compare research results (Bakti, 2015). The relevant parts of the result are compared with the results of the Kettemann corpus of German speech errors (Kettemann, 2010) and the results of Marx (1999).

The observational method for collecting speech errors has received some criticism as there might be some distortions during data collection and categories are sometimes ambiguous In addition, the perception and noting down of disfluencies might also be incorrect (Magyari, 2014). This should be kept in mind as both the Ketteman and Marx corpora were collected through observation. Marx collected her examples from conversations, speeches, radio and TV broadcasts lectures and seminars (Marx, 1999).

In addition, our results are compared with the speech error pattern of simultaneously interpreted English TL texts from the ICBS corpus.

3. Results

3.1 The ICSB corpus

In our text analysis, we identified 865 speech errors in the 48,314 words of the ICSB Corpus' English and German TL texts, which is one speech error for every 55.8 words.

In the texts analyzed, the most frequent speech errors were grammar and morphology errors followed by multiple cause errors. Restarts ranked third, followed by simple slips. Table 1 shows the distribution of speech errors in the TL texts.

Table 1. Distribution of speech errors in the TL texts

Speech errors	**%**
grammar	33
multiple cause	15.1
restart	12.9
slip	9.8
false start	7.8
chain	6.3
repetition	5
appropriateness repair	4
false word	3.1
lexical blend	1.6
ordering problem	1.4
total	100

3.2 Speech errors in the German TL texts

The 75 German TL texts contained 38,724 words and 667 speech errors, which means one speech error for 58.05 words of the German TL texts, or 1.72 speech errors for 100 words of the TL texts. Table 2 shows the distribution of speech errors in the German TL texts.

Table 2. The distribution of speech errors in the German TL texts

Speech errors in the German TL texts	**%**
grammar	38.7
multiple cause	17
slip	11.4
restart	8.7
false start	6.6
chain	4.8
appropriateness repair	3.6
false word	3
repetition	2.4
lexical blend	2
ordering problem	1.8
total	100

The most frequent slips in the German TL texts were grammar errors (38.7%), followed by multiple cause errors (17%). Simple slips (11.4%) ranked third, followed by restarts (8.7%).

The German TL texts include a wide variety of grammar errors, among others errors related to the use of the definite article, conjugation, and word order.
Example (3) shows a case of using an incorrect article, which is then corrected. Maybe the interpreter has already activated the noun *Verhandlungen,* and that is why the plural article was first used.
SL: especially because it all owed to anticipate on the conclusion of the global negotiation between the EFTA country and the EC on the European economic space.
*TL: denn dadurch ist es möglich, .. . **die das** Ende der globalen Verhandlungen zwischen EG und EFTA über die Schaffung eines europäischen Wirtschaftsraums bereits vorwegzunehmen.*
The next example is related to separable verbs. Here the interpreter starts uttering the separable prefix of the verb, after which the interpreter repairs the utterance.
(3) SL: This result is also in line with one of the more general STRATOS findings that the old hypothesis of John Maynard Keynes, among others, I mean, ' applying ethical principles in management may not only be unnecessary but even an impediment to success,
*TL: Dieses Ergebnis' **ü stimmt ebenfalls überein** mit ei der allgemeinen Befunde im Bereich der STRATUS_Studie, dass die alte Hypothese von John Maynard Keynes' hinsichtlich der Anwendung ethischer Prinzipien im Management nicht nur unnötig ist, sondern sogar eine Behinderung für den Erfolg.*
Some of the grammar/morphology errors were related to word order. In the following example, the word order should have been *sicher näher darauf eingehen*.
(4) SL: and I'm sure he will make some introductory remarks,
*TL: und er wird in seinen einleitenden Bemerkungen **sicher darauf' näher** eingehen. ..*
The third most frequent type of speech errors in the German TL was simple slips. In the following example, a consonant is changed in the expression *zuenanderfinden lassen*.
(5) They play as well a part in the process of bringing businesspeople together.
*TL: und können auch Partner zueinande**n**finden lassen,*
The fourth most frequent type of speech errors was restarts. In the next example, the first sound of the word *fortdauern* is started, followed by a pause, followed by the restart of the activated word.
(6) SL: These extensions will go on.
*TL: Und diese Erweiterung wird **f f**ortdauern,*

In summary it can be stated that as a result of language specific factors, in other words, the rich morphology of the TL, grammar errors were the most frequent errors in the German TL texts, followed by multiple cause errors and slips, which are related to TL execution.

3.3 Comparison with the Kettemann corpus

In this section we compare speech errors form the ICBS corpus with research results for spontaneous German from the Kettemann corpus. The Kettemann corpus includes 467 speech errors, out of which 451 were comparable with our taxonomy. The following speech error categories are used in their description by Kettemann (2010): associations, contamination of at least two units concerning a semantic category, anticipation, metathesis, elision/omissions and repetitions (2010: 101-105). We selected speech errors from the ICBS corpus that matched the categories used in the analysis of the Kettemann corpus. We found 70 speech errors that fit these categories and, following Kettemann's analysis, categorized the German TL speech errors (n=70). Table 3 shows the results.

Table 3. A comparison of the speech errors in the Kettemann corpus (n=451) and the ICBS corpus (n=70)

	Errors of Morphemes Kettemann	**Errors of Morphemes ICBS**	**Errors of Consonants Kettemann**	**Errors of Consonants ICBS**	**Errors of Vowels Kettemann**	**Errors of Vowels ICBS**
Blends	33 7.3 %	13 18.6%	0	0 0	0	0 0
Repetitions	3 0.7%	15 21.4%	73 16.2%	0 0	30 6.6%	0 0
Anticipations	7 1.5%	1 1.5%	162 35.9%	4 5.7%	41 9.1	2 2.8%
Metathesis	3 0.7%	0 0	36 8	2 2.8%	11 2.4%	0 0
Elision / omission	3 0.7%	2 2.8%	41 9.1	18 25.8%	8 1.8%	13 18.6%
TOTAL	49 10.9 %	31 44.3 %	312 69.2	24 34.3%	90 19.9%	15 21.4%

It is important to note that in the ICBS corpus morpheme repetitions involved the repetitions of functions words only (for example *ein, gibt es, hier, oder*).
In the case of consonants in the ICBS corpus, none of the consonant exchanges were corrected (there is no information whether they were detected). In the case of vowels in the ICBS corpus, out of the simple slip/vowel exchanges only three (16.6 %) were corrected.

The data show that morpheme errors were more frequent in the corpus of simultaneously interpreted TL corpus, whereas consonant errors were more frequent in the corpus of spontaneous speech errors. Vowel errors had similar frequencies in both corpora.

3.4 Comparison with the results of Marx (1999)

In her analysis of gender processing in speech production, Marx (1999) uses the following classification for noun errors: blends, meaning-related noun substitutions, word exchanges and form-related substitutions (Marx, 1999: 608-609). In the ICSB corpus, 28 slips matched the categories used by Marx. Table 4 shows the quantitative comparison of data from the two corpora.

Table 4. A comparison of the speech errors in the Marx corpus (n=636) and the ICBS corpus (n=28)

Error type	**Marx (1999)**	**ICSB corpus**
substitution	553 86.95%	27 96.4%
blend	34 15.35%	0
exchange	49 17.7%	1 3.6%
total	636	28

It can be seen from the data that in both corpora substitutions were the most frequently occurring error.

We also examined whether the identical gender effect can be observed in the speech errors from the simultaneously interpreted TL texts. Table 5 summarizes the results, showing that the majority of the errors (67.8%) in the ICBS corpus were gender-identical.

Table 5. Gender-identical and gender-nonidentical errors

Error type	**Marx (n=636)**		**ICSB (n=28)**	
	Gender-identical	**gender-nonidentical**	**gender-identical**	**gender-nonidentical**
Substitution	403	150	18	9
Blend	29	5	0	0
Exchange	18	31	1	0
Total	450	186	19	9

3.5 Errors of grammatical processing

In the TL texts of the ICBS corpus the majority of errors were categorized as grammar errors, which are connected to morphological and syntactic planning processes during speech production. These are errors of performance rather than

competence, and they signal lack of monitoring or a lack of mental energy available for monitoring during SI.

Among the grammar errors, we detected 50 cases when the definite article was uttered, followed by error detection, which in turn was followed either by a corrected definite article or no correction at all. Out of the 50 cases, in 33 cases there was a correction of the definite article, in 17 cases there was no correction, the errors were left uncorrected.

3.6 Comparison of the speech error patterns of the English and German TL texts

The eight English TL texts contained 9,590 words and 198 speech errors, one speech error for every 48.4 word of the English TL texts. The 75 German TL texts contained 38,724 words and 667 speech errors, which is one speech error for 58.05 words of the German TL texts. In other words, speech errors occurred more frequently in the English TL texts.

Table 6 shows the distribution of speech errors in the English TL texts.

Table 6. The distribution of speech errors in the English TL texts

Speech errors in the English TL texts	**%**
restart	27.3
repetition	14.2
grammar	12.1
false start	12.1
chain	11.6
multiple cause	9.1
appropriateness repair	5.6
slip	4.5
false word	3.5
total	100

The most frequent slips in the English TL texts were restarts (27.3%), followed by repetitions (14.2%). Grammar errors and false starts ranked third, both with 12.1% of the speech errors in the English TL texts.

Example (7) is an example of a restart, where the first sound of the target word is uttered, followed by a pause, and then the activated word is uttered again.

(7) SL: …was jedoch für Ihre Kinder nicht mehr attraktiv ist.
*TL: But the **ch_ch**ildren very often don't want to have these.*

Example (8) is an example of a repetition in the English TL text, where the definite article is repeated.

(8) SL: Und die Tendenzen sind ja eigentlich auf der ganzen Welt ganz ähnlich.

TL: Of course M ***the the*** *trends are similar the world over*

Example (9) illustrates a grammar error related to agreement between determiner and noun. In this case the determiner *these* is used in the plural, followed by the singular noun *directive*.

(9) SL: Danach ist die technische Spezifikation von verlangten Leistungen primär nach harmonisierten Normen, primär nach europäischen Normen vorzunehmen.

TL: And we have ***these directive*** *as an example.*

False starts were as frequent as grammar errors in the English TL texts. The next example shows a false start where the interpreter first activates the word *implement*, but before finishing the utterance repairs it to *imply*.

(10) SL: Die Bestimmte, wie im Gesetz genannte Voraussetzungen determiniert erfüllen muss. Dem Verein Österreichisches Normunginstitut wurde diese Befugnis mit Bescheid übertragen.

TL: The by-laws of the Austrian Standards Institute M contain several provisions m ***implem implying*** *that when ….*

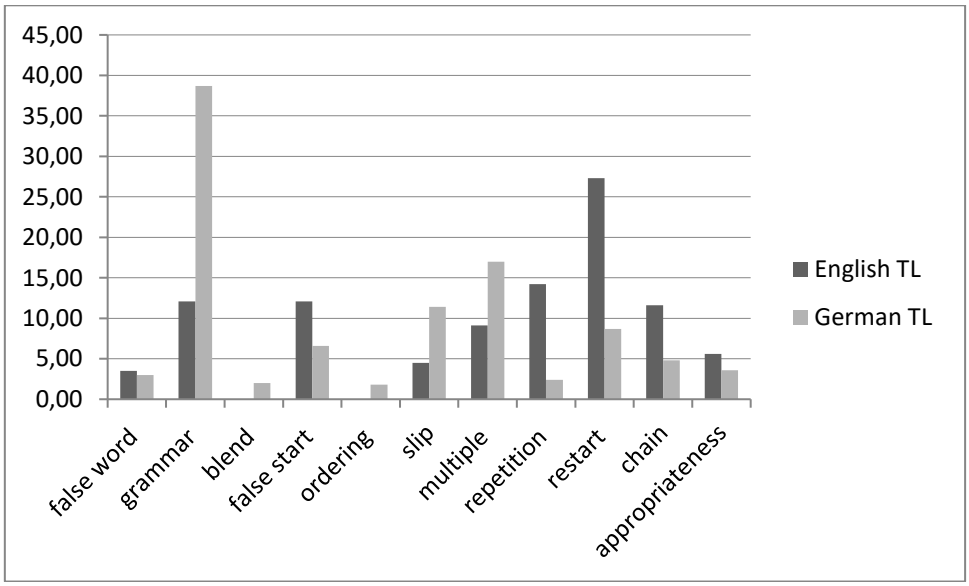

Figure 1. Comparison of speech error patterns of the English and German TL texts

Figure 1. provides a comparison concerning the TL speech error pattern of the English and German TL texts.

The most important differences are the following.

a) The frequency of incidence of *grammar errors* in the German TL texts is 38.7% in contrast to 12.1 % in the English TL texts.

b) The frequency of *false starts* is 12.1 % in the English TL texts, and 6.6 % in the German TL texts.
c) The frequency of *slips* in the German TL texts is 11.4%, in the English TL texts it is 4.5%.
d) *Repetitions* are more frequent in the English TL texts (14.2%) than in the German TL texts (2.4%).
e) *Restarts* are more frequent in the English TL texts (27.3%) than in the German TL texts (8.7%).

3.7 Results related to cross-linguistic influence (CLI)

A category of SI-specific speech errors in the corpus can be linked to cross-linguistic influence (CLI), in other words the insufficient inhibition of the SL during TL speech production (see Table 7). In most of the cases these errors are not corrected. CLI in the TL texts was found in false word, grammar and false start errors. Their proportion, however, is rather small, it is below 1 % in the case of grammar and false word errors, and is slightly above 1 % in the case of false start errors.

Table 7. The proportion of errors related to CLI

	All TL texts in the ICBS corpus	**English TL texts**	**German TL texts**
false word	3.1 %	3.5%	3%
CLI in false word errors	0.35%	0%	0.45%
grammar errors	33%	12.1%	38.7%
CLI in grammar errors	0.23%	0%	0.31%
false start	7.8%	12.1%	6.6%
CLI in false start errors	1.4%	1.01%	1.5%

Example (11) shows a case where lexical activation is influenced by interference. The interpreter first activates the word *Papierbeschwerer*, then corrects it to *Briefbeschwerer*. Both expressions are correct in German, although 'Briefbeschwerer' might be slightly more frequent.

*(11) SL: IT'S A **PAPERWEIGHT** WITH THE :-) ICSB SIGNET,*
*TL: Sie sehen das hier, **ein Papier Briefbeschwerer***

Example (12) illustrates a case of CLI in a false word start. In this case the interpreter started the first syllable of the SL word, and then repaired it to the German equivalent.

(12) SL: I'm sure that everybody agrees with me that you brought us to the fundamental roots of ***the whole system*** *we have to discuss about this afternoon.*
TL: Ich glaube, alle sind mit mir einer Meinung, dass Sie uns auf die Wurzeln ***des hol ganzen Systems'****, um das wir hier diskutieren, verwiesen haben. ..*

The small proportion of these errors indicate that even though CLI is present in the TL texts, professional interpreters have the ability to inhibit interference, in other words they have mental energy available to monitor their output for signs of CLI, and to repair any errors of this kind.

4. Discussion

The results indicate some similarities between the speech error pattern of spontaneous German and the TL texts in the ICSB corpus, and some differences between the German and the English TL speech errors. Comparison with the Kettemann corpus reveals that there are similarities between the spontaneous and the simultaneously interpreted corpora only in the case of vowel errors, morpheme errors were more frequent in the corpus of simultaneously interpreted German, whereas consonant errors were more frequent in the corpus of spontaneous German. The comparison with the Marx corpus shows similar tendencies in the two speech production settings; substitutions are the most frequent noun errors in both corpora, and the identical gender effect can be detected in both the spontaneous and the simultaneously interpreted German texts. A comparison between the English and the German TL texts reveals some differences between the speech error patterns of the two corpora. These might signal that, in addition to the specific conditions of speech production, language-specific factors can also influence the speech error pattern of simultaneously interpreted TL texts.

This means that our hypotheses were only partially conformed. We predicted a high incidence of restarts, which characterized both corpora, and we found a high incidence of grammar errors in the German TL texts. However the comparison between the simultaneously interpreted and the spontaneous German corpora did not always signal clear differences.

Although monolingual spontaneous speech and simultaneous interpreting both involve parallel and incremental processing, speech production during SI differs from monolingual speech production in the following. Setton, in his comprehensive model of SI, which he sees as “a hybrid of best available theories” (Setton 1999:63), states that in speech production during SI the interpreter doesn’t conceive an intention to convey a message, and the interpreter’s discourse plan follows that of the SL speaker. Also, a simultaneous interpreter can either form an autonomous TL sentence plan, or can follow the

sentence plan of the SL speaker. Another important difference is that the interpreter forms plans for sentence constituents before they come up with a sentence plan, in other words, they work based on an incomplete input. Sometimes interpreters have to start articulation of sentence parts before they have a complete compete phonetic plan for the whole sentence or the given sentence part (Setton 1999).

Setton's model incorporates Levelt's speech production model. During SI, the macroplanning of speech is carried out by the SL Speaker, and the interpreter works based on an incomplete input. The first stage of speech planning is conceptual planning (Levelt 1989), a part of which is pragmatic planning. Speech errors reveal how pragmatic planning leaves its mark on the TL output of simultaneous interpreters in the form of appropriateness repairs or doublets, irrespective of SL or TL.

The next stage of speech planning is grammatical encoding (Levelt 1989). We found that one language-specific difference in the speech error pattern of simultaneously interpreted TL text relates to grammar errors in the corpus. Given the complex morphology and syntax of German compared to English, it seems that grammatical planning is more complex and is probably more difficult to carry out during SI, under time pressure, based on incomplete SL input.

The results of Turennout and colleagues (1998) might shed some light on grammatical encoding in languages where determiners in NPs are marked for gender and case. They found that during grammatical encoding in Dutch the gender of a noun is known to the speaker 40 ms before the first phonological segment of the noun. Our results are in line with the findings of Marx (1999), signaling that gender information is only available during lemma selection.

The next stage of speech planning is lexical access (Levelt 1989). False word starts signal problems related to lexical access, in other words selecting items from the mental lexicon. These errors were about twice as frequent in the English TL texts as in the German ones. It has to be noted that as a result of the specific conditions of SI, lexical access can be hindered by cross-linguistic influence. Speech errors both in the English and German TL show evidence of this.

Ordering problems signal malfunctions at the level of articulatory encoding, while simple slips are speech errors related to a lack of coordination between articulatory encoding and speech execution (Gósy 2005). Errors of this type seem to occur more frequently in the German TL texts.

Repetitions and restarts are errors rooted in the uncertainty of the speaker. In most cases speakers tend to repeat short function words in order to gain time for the speech planning process. The incidence of restarts might be explained by DAF (delayed auditory feedback) effects (Spiller-Bosatra and Daró 1992), as the conditions of speech production during SI slightly resemble the conditions of speech production in speech noise. In both cases speech production is hindered

by some auditory input, in the case of simultaneous interpreting this input is the target language production of the interpreter.

An explanation to speech errors related to CLI can be found in Setton (1999), according to him although "the main processing route in professional translation is to be via conceptual and intentional representations, there must be also several partial short cuts" (1999:95), some of these short cuts could be unwanted and /or unconscious. These short cuts could lead to interference via cross-linguistic connections.

5. Summary

This paper looked at speech errors in the ICBS corpus, our aim was to investigate the speech error pattern of simultaneously interpreted German target language texts.

Our results indicated that there were some similarities between the speech error pattern of spontaneous German and the German TL texts in the ICSB corpus, and some differences between the German and the English TL speech errors. This might signal that, in addition to the specific conditions of speech production, language-specific factors also influence the speech error pattern of simultaneously interpreted TL texts.

The limitations of this investigation should also be noted, namely the small size of the English TL corpus, which was produced by one interpreter, and the small size of the German TL sub-corpora that were used in the comparisons with the Kettemann and the Marx corpora. These limitations do not allow generalizations about the results, however, the data from this authentic conference setting allow us valuable insights into speech planning and execution processes during SI.

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