TRANSLATING NUMBERS IN CONSECUTIVE INTERPRETATION: AN EXPERIMENTAL STUDY

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This experimental study has been conducted concurrently with an experiment on simultaneous interpretation to be discussed next December in a thesis by Alessandra Crevatin, a student of the S.S.L.M. Crevatin analyses the problems and strategies involved in the simultaneous interpretation of numbers and describes an experiment conducted with students of the S.S.L.M.

This paper, on the other hand, describes an experimental study on the impact that the presence of numbers in a speech may have on the performance of consecutive interpretation.

In a survey of 1982 on interpreters' occupational stress, 65% of the 826 interpreters who completed a questionnaire on job stress considered the interpretation of figures as a source of stress at work. This may seem surprising to those unfamiliar with interpretation, because, unlike most of the elements of speech the meaning of which always depends on the context in which they are used, figures have only one meaning. Their main characteristic is the correspondence between the word indicating the figure and the meaning itself, (i.e. between 'signifiant' and 'signifié'). Hence, figures could be expected to be easy to translate or transpose from one language to another, especially so when the languages involved use the same graphic symbols. This, however, is not the case, owing to the very nature of interpretation. In fact all experts on the subject point out that the primary objective of interpretation is "la transposition de l'idée plutôt que du mot" (Rozan, 1959). In the pursuit of this aim the interpreter must accomplish a series of different tasks: listen, analyse and memorize the message and reformulate it in the target language. This procedure is practically the same both in simultaneous and consecutive interpretation, the main difference consisting in the time factor and in the additional task of taking notes as a memory aid in consecutive. In interpreting consecutively, the interpreter enjoys the benefit of a longer time lag between the utterance of the original speech and his/her interpretation. The advantage is that the whole message is reformulated once all the statements within a speech have been understood in relation to each other. In consecutive too mental activities partially overlap. In fact, if it is true that "le travail en profondeur doit être fini lorsque commence la lecture des notes" (Rozan, 1959), the analysis of the message requires a certain time implying a *décalage* between the moment at which the speaker utters his idea and the interpreter jots down a few notes. While the speaker keeps talking, the interpreter must carry on at least two different activities at the same time: analysing and note-taking one segment of the speech, on the one hand, and listening to the following segment, on the other. Thus the interpreter must activate a "parallel strategy" (Kirchhoff, 1979) to distribute the time and energy he/she can devote to each activity and rapidly decide what will be remembered and what will be noted. It is exactly at this stage that figures can interfere with the rapid flow of ideas and images in the interpreter's mind (and on paper). The way in which figures are processed by the mind during this phase has been dealt with by various experts all of whom point out that figures require special treatment on the part of the interpreter. This is due to their extremely low degree of predictability, as well as to their high informative content and univocity of meaning.

An experiment was conducted with 12 professional interpreters working in consecutive from English into Italian. The purpose of the experiment was: a) to verify the assumption that numbers are indeed a problem even for experienced interpreters and b) to try to measure the degree of disturbance caused by numbers during the whole process of consecutive interpretation, and c) possibly to speculate about

what exactly happens when an interpreter comes across numbers. The study was based primarily on the end result of the interpreters' work, a systematic analysis of the various phases of the interpreting process being beyond its objective.

Procedure

The experiment involved 12 professional interpreters, two of whom were men and 10 women. All subjects have Italian as their mother tongue. One is a former permanent interpreter at the European Parliament, the others work for the European Parliament in the Italian booth, 4 as permanents and 7 as free-lancers.

The age of the subjects varies from 28 to 53, with working experience ranging from 4 and a half to 28 years. Six of them are A.I.I.C. members and all of them received formal training in consecutive interpretation, although most of their present activity consists in simultaneous interpretation. The source language for the experiment was English and the target language was Italian.

To ensure homogeneity of speed, enunciation and pronunciation, the English text was read and recorded. This procedure certainly lends itself to criticism because it does not correspond to real working conditions. However, given the aim of the study, this choice had to be made. It would have been too difficult, if not impossible, to give a speech with many figures, of varying magnitude, without reading it. Actually, although a written text was chosen for the experiment, it had not been prepared specifically for this study, but it was an authentic speech given at an international conference.

The interpreters were asked to listen to the recording, take notes and deliver their consecutive interpretation in the presence of the author of this paper.

The speech was a description of the socio-economic situation of Black women in South Africa and was not as structured as written texts usually are; it still retained some of the freshness of an impromptu speech. It developed a logical line of thought, alternating between conversational descriptions and factual information, such as statistics and examples corroborated by numerical data.

For the purpose of evaluation, the interpretations were recorded and examined on the basis of the following classification of errors:

For the figures:	omissions
	errors
	approximations
For the text:	omissions
	semantic errors
	morphosyntactic errors

This error classification is unsophisticated as compared to some error coding systems developed and proposed by other authors. As stated at the beginning of the present paper, however, the aim of this study was primarily to quantify the extent to which a figure can be regarded as a disturbing element and the classification chosen served this purpose.

Bearing in mind that interpretation in general and consecutive in particular are meant to reproduce ideas and not words, in evaluating the interpreters' output no attention was paid to the reproduction of surface structures nor to the number of words omitted or distorted. It must be said, however, that it was not always easy to make a clear-cut decision on the acceptability of the interpretation. In fact, given the considerable degree of flexibility allowed by consecutive interpreting in the choice of words and in the order of presentation of ideas, the interpreters' output presented a wide range of solutions. Sometimes a concept omitted at the point where the original speaker had expressed it was introduced later in the interpreter's speech or was reproduced in a totally different form rendering difficult any attempt to relate it to the original text. Thus, although the evaluation was carried out objectively, allowance must be made for a certain degree of uncertainty compensated for, however, by applying the same criteria in the evaluation of all the tests.

The original text was broken down into a list of semantic units and the tests were checked against this list to identify the omissions and the deviations from the source language text.

The frequency of figures in the text was calculated on the basis of the number of units of meaning in which the various kinds of figures appeared and was expressed as a percentage of the total number of units in which the entire text had been broken down. The value thus obtained was 33%. Then for each test the number of errors concerning the figure-based units was calculated and expressed as a percentage of errors in the entire text. Thus, had the distribution of errors been perfectly homogeneous, this percentage would have been 33% and any deviation from this percentage would have represented the incidence of errors in the parts of the text containing figures.

As for the errors in reporting the figures themselves, a table was compiled to assess whether any classes of figures were more susceptible to omission or distortion.

Results

Table 1. For each test the percentage of figure-related errors is indicated (E fig.). Bearing in mind that figures appeared in 33% (E tot) of the text, the difference between E fig and 33%, illustrates the influence of figures on the recurrence of errors.

E tot = 33%

Tests	E fig.
a	45%
b	34%
c	47%
d	52%
e	36%
f	43%
g	53%
h	59%
i	46%
j	38%
k	41%
l	42%

Table 2. The following table shows the errors made in reporting the actual figures, broken down into categories

ERRORS ON FIGURES

1 digit	16	15.5%
2 digits	31	30.0%
Thousands	9	8.8%
%	47	45.7%
TOTAL	103	100%

Discussion

The percentage of figure-related errors ranges from 34% to 59%, indicating that figures have actually "attracted" errors. The average percentage for all the tests (which is confirmed even when eliminating the highest and lowest scores) is 44%. Considering that the percentage of the figure-based text out of the entire text was 33 and comparing this percentage with the percentage of figure-related errors, an average difference of 11 points was obtained. This means that the units of meaning containing figures scored 1/3 more errors than the remaining parts of the text. As for the distribution of errors between the figures as such and the figure-based units of meaning, it may have provided some indication of the strategy followed by the interpreters in coping with figures, for example if the choice of rounding them up or omitting them had been frequently accompanied by a greater accuracy with reference to the remaining text. However, as no evident correlation appeared in this respect, it was not possible to recognize any common strategy followed in smaller groups of tests, nor to identify an effective strategy to be recommended to interpreters.

Interesting data, though, may be extracted from the observation of the recurrence of the different types of error. The average percentage of omissions in the figure-based text is 29.5%. The percentage for semantic errors is 58.5% and the average percentage of morphosyntactic errors is 26.7%. All these percentages are confirmed by the fact that they vary very little when the highest and lowest values are disregarded. This shows that morphosyntactic errors are more frequent in the conversational parts of the text. This is probably due to the somewhat limited stylistic choice used by the same speaker when reporting figures, dates and statistics. We also know, and this is confirmed by the experiment, that interpreters' experience provides them with a whole series of ready-made expressions to describe economic information, such as rates of unemployment, population growth etc. As for omissions, their percentage for the figure-based text approximately corresponds to the percentage for the entire text, indicating a linear distribution. Thus, of all the errors, semantic ones appear to be much more frequent in the figure-based text. Moreover, although omissions did sometimes prevent a correct transmission of the message, semantic errors were always misleading. This data, therefore, confirms the influence that figures have, not only on the quantity of errors, but also on their quality and consequently on the quality of consecutive interpretation as such.

The distribution of errors in the various categories of figures shows that the highest percentage of error was reached by numerical expressions such as percentages. Many of the percentages in the text come out in pairs (from x to y%), therefore a possible explanation of the high error rate could be that in this case the figures appeared in the context of the description of a process, implying a certain degree of reasoning. Thus, in this case, more than when dealing with isolated figures, the interpreter was obliged to operate the mental switching usually required to note figures to the detriment of an "intelligent listening" to ideas. Surprisingly enough, a fairly low error rate was scored by the figure 382,395 (jobs), rounded up by a couple of interpreters and correctly reported by all the others, despite its difficulty. This was plausibly due to the fact that, although figures can rarely

be predicted, the sentence in this case was constructed in such a way that the imminent uttering of a figure was easily predictable.

A further interesting case was presented by the expression "one or more children" referring to the structure of modern families as opposed to traditional ones. Out of the 8 interpreters who reproduced this piece of information, 7 replaced the original expression with "one or two children". As far as the pronunciation in the original is concerned, the expression was unequivocal. Actually "one or two children" is a very frequent expression associated with families; so this must be a case of excessive prediction and interpreters heard exactly what they were expecting in that situation.

In conclusion it can be stated that the study confirmed the initial assumption and made it possible to measure the impact of figures on consecutive interpretation.

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