

## POST-EDITING SYSTRAN - A CHALLENGE FOR COMMISSION TRANSLATORS

In this article I shall try to refrain from any comments on the value (or otherwise) of machine translation in general, and Systran in particular, and shall simply attempt to describe the impact of post-editing work on Commission translators and revisers and, briefly, the impact of post-edited translations on translation users.

Systran must still be considered as 'on trial' at the Commission. It has had a long probation period (nearly 10 years for certain language pairs), but is still operational only on a very limited scale. This is not for lack of financial and intellectual investment in the system itself, but partly because of extraneous problems of technical infrastructure and partly because, as we say in English, 'the proof of the pudding is in the eating'. I shall restrict myself to comments on the work of those who serve this particular pudding, and the reactions of those who taste it, and refrain from discussing whether the bakers ought perhaps to try a different recipe.

### Differences between full post-editing and rapid post-editing

Firstly let me explain the important differences between the two types of post-editing carried out here at the Commission, in the English, French and Italian Divisions. Full post-editing is an attempt to convert raw machine translation into a product indistinguishable from human translation. Rapid post-editing is a cursory correction of the raw MT, correcting only the most serious errors so as to give reasonable comprehensibility and accuracy, without any guarantee of quality.

The main differences are :

- The time spent on post-editing. Rapid post-editing is naturally much less time-consuming than full post-editing, which may take as long as, or longer than, conventional translation. Rapid post-editing at the target rate of four full pages per hour allows the translator/post-editor to save time and reduce translation turnaround time. One might argue that it is possible for translators to dictate conventional translations at this rate, when under extreme pressure, but one must also admit that it is not common.

The quality of the final translation. The quality of a fully post-edited translation should be identical to that of a conventional translation, i.e. the best the translator can manage. With rapid post-editing, on the other hand, the main criterion is not quality but speed. Requesters must of course realise, and accept, that in these cases quality has been sacrificed to speed, and they must be prepared to relax their own stringent standards accordingly.

### Differences between post-editing and conventional translation

The most obvious difference for the translator is of course that post-editing entails correction of a pre-translated text rather than translation 'from scratch'. The translator is accustomed to a certain freedom in selecting the words he will use to build his translation; the post-editor's choice is restricted by the words displayed on the page or screen of raw machine translation, many of which are wrong and misleading. Working by correction rather than creation comes as more of a shock

to translators than to revisers: the novice post-editor, like the novice reviser, has to resist the temptation to rewrite the whole text (he may naturally do so if he wants, but it is not an efficient way of working, and it makes a reviser extremely unpopular).

The other major difference, which applies only to rapid post-editing, is that translators must temporarily abandon their high standards in order to produce a 'quick and dirty' version of the source text, secure in the knowledge that this is all the requester wants, and that they are therefore providing a useful service - rather like a Cordon Bleu chef who must be prepared to fry up some frozen fish fingers occasionally for hungry and indiscriminating customers.

#### Differences between post-editing and revision

The correction element of post-editing is less of a novelty for the reviser; he has normally acquired the word-juggling skills needed to improve another person's work with minimal intervention. The main difference for the reviser is in the intellectual level of the text he has to correct. The human translations which he is called upon to revise are the products of a human brain, and a highly-trained brain at that - owned by a translator who has survived the rigours of the Commission's selection procedures and has acquired certain specialized knowledge, by experience and/or ad hoc research.

Raw machine translations are not the product of a human brain, and that is why they contain errors which no human, even a small child or a non-native speaker, would ever make. Machine translations are the result of the application of rules devised by the human brain : rules for analysis of the source language and rules for synthesis of the target language. Yet theoretical linguists freely admit that there is no adequate description of human language on which such rules could be based :

"... la machine applique les règles qu'on lui a données, et l'état de la description de chaque langue ne permet pas, à l'heure actuelle, une description systématique que l'on puisse considérer comme exhaustive. A plus forte raison la mise en regard de deux descriptions de deux langues - qu'elle se fasse directement ou par un module de transfert - n'est pas fondée sur une description qui puisse prétendre être totale." (1)

#### Translators' and revisers' reactions to post-editing

From discussions with colleagues in all the divisions concerned, I have the impression that translators and revisers seem to progress through three stages in their reactions to post-editing.

In the first, anthropomorphic stage, translators new to post-editing may secretly enjoy the chance to wield the red pen at last and the feeling of superiority that goes with correcting bad translations. More often, though, both translators and revisers at this stage find the raw translation irritating and 'stupid', or (depending on their sense of humour) amusing.

When this stage has passed, and the post-editor has become all too painfully aware that the machine is not human, he enters the second, objective stage :

"Pour comprendre ce que doit être la post-édition, il faut oublier - si possible - les notions de bien et de mal, de beau et de laid. C'est pourquoi il n'y a pas de fautes, mais des erreurs, comme il n'y a pas une correction ... mais des modifications. Ces modifications sont orientées vers l'adaptation du texte à une fonction ..." (2)

This is the sentiment behind the analogy which I myself have drawn between rapid post-editing and playing Scrabble (3). Like the astute Scrabble player rearranging a random set of letters, the post-editor must simply try to rearrange the set of words proffered by Systran into another set of words which will reflect the meaning of the source text, discarding as few of those words as possible.

After some experience the post-editor reaches the third, discerning stage, and here he has some basic decisions to make, some of which relate specifically to the job of post-editing, and some of which address more general, almost moral, issues.

Specifically, he must decide : is the raw Systran translation a help or a hindrance? The answer will depend partly on the post-editor's working methods and the tools provided, but primarily on the density of post-editing needed, and on the final product required - full post-editing or rapid post-editing? Many translators have rejected Systran as an aid to full-quality translation, but they accept it as a basis for rapid post-editing if this represents a genuine service to the end user.

However, systematic production of low-standard work may present problems for staff whose whole training and career at the Commission have induced them to raise, not lower, their standards. In the interests of effective communication, they have traditionally been encouraged to feel responsible for their translations - but with rapid post-editing, part of the responsibility for the end product and its inevitable flaws is shifted from the post-editor to the computer.

Some might well ask whether this shift is desirable. It has been suggested, but not yet confirmed, that in the long term it could have a 'brutalizing' effect on normally conscientious translators (4); revisers called upon to revise fully post-edited translations (which should be indistinguishable from human translations) have certainly noticed that Systran occasionally 'shows through' in the translation - the translator forgets to correct typical Systranisms or fails to check technical terms because he trusts the machine to have translated them correctly, with unfortunate results. On the more general level, one is bound to question the advisability of shifting responsibility from a human being to an unthinking machine, especially in cases where this responsibility involves human reason and intuition rather than purely mechanical functions.

### Recommended working methods

Various guides have been produced on post-editing techniques (an example is given at Annex 1), but these are generally empirical in nature, reflecting experience acquired on the job. No theoretical training has yet been devised, and it is questionable whether it could be. As with translation, the best training is probably practical experience.

Where appropriate, advice and guidance can be offered in the use of word processors; some post-editors are happy to work on paper, while others, in the English Division at least, prefer post-editing on-screen and have devised some ingenious word-reshuffling techniques to speed up post-editing, based on the excellent Wang OIS system which was installed experimentally. Since these are unique to Wang or similar more powerful systems, they will not be detailed here.

### Users' reactions to post-edited translations

Once it has been revised, fully post-edited Systran is indistinguishable from human translation, and the end-user is normally unaware that the computer has played any part in the translation process. It is only with rapid post-editing that he will notice a difference in quality and speed. At the Commission, there is an enthusiastic but extremely small clientele for 'quick and dirty' translations. The handful of requesters who specifically ask for rapid post-edited translations tend to use them in one of two ways:

- to provide a preliminary draft of a text which they will edit further,
- or
- to provide rough translations for information only.

The translation divisions which offer rapid post-editing as a service were surprised that demand for this service is so low. After all, it is frequently claimed that translators are too perfectionist and 'obsessed with style'. It was therefore anticipated that there would be a good market for rough translations for information only. But this was not the case. One reason, no doubt, is that the service is at present available only in three language pairs, French-English, English-French and English-Italian. It will be interesting to see if there is any increase in demand when the two new pairs, English-German and French-German, are added. However, it is also possible that there is little real need for this 'information-scanning' type of translation at the Commission, where most officials have an adequate understanding of English and French, Systran's only source languages.

Outside the Commission, there are some satisfied users of raw translations, such as the Kernforschungszentrum in Karlsruhe, but other machine translation users have stressed the importance of high-quality translation :

"Our (software) manuals are read thoroughly once, for the purpose of becoming familiar with the software systems, but are afterwards used repeatedly for reference. While this type of usage is primarily for information purposes only, we feel that style is nonetheless an important factor in 'getting the message' to the reader. Failure to achieve rapport immediately leads to a decrease in acceptance, as well as an increase in costs for trouble-shooting and maintenance. Hence high-quality translation is required for 90% of the texts." (5)

Although the response to low-quality translation and rapid post-editing has been reserved, many translation users and managers - and some translators - are convinced that machine translation systems will improve exponentially and will then be of greater use. As Peter Walker, one Commission requester who has taken a great interest in Systran, has put it :

"A major factor ... is the user reaction to translations; in particular whether he is both able and prepared to accept some temporary inconvenience while the standard of translation by machine is improved to that which is readily available from the best human translation." (6)

To discuss whether such optimism is justified would be to step beyond the bounds which I deliberately set for this article.

#### References

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- (2) *ibid*
- (3) E. Wagner, Rapid post-editing of Systran, ASLIB Proc. 1983
- (4) V. Lawson, Machine translation and people, ASLIB Proc. 1981
- (5) K. Tschira, Looking back at a year of MT with Logos, ASLIB Proc. 1983
- (6) P. Walker, A CEC user looks at Systran, ASLIB Proc. 1983.

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Advice on rapid post-editing E. Wagner, May 1984

General

1. Speed of work : 2 pages per hour or faster. Aim at 4 pages per hour.
2. All rapid-post-edited texts go out unrevised.
3. All these texts must be marked RAPID-POST-EDITED MACHINE TRANSLATION, preferably on every page.

Working procedure

The aim of rapid post-editing is to save time, and the following rules have been devised for this purpose.

Do use a word processor if possible. You may prefer to correct the raw translation by hand at first, but with more experience you will find that it is more interesting and satisfying to work on screen.

Do read the original text first (paragraph by paragraph). It is dangerous to correct the raw translation without referring to the original.

Do make changes only when they are absolutely necessary, i.e. correct only words or phrases that are

- a) nonsensical
- b) wrong

and, if there is enough time left,

- c) ambiguous.

Do retain as much of the raw translation as possible. Resist the temptation to delete and rewrite too much. Remember that many of the words you need are there somewhere, but probably in the wrong order.

Do save time by giving a 'free' translation or even a colloquial expression which would not normally be acceptable in Commission usage. This is justifiable because the main aim is to convey the information content of the text.

Don't allow yourself to hesitate too long over any particular problem - put in a marker and go back to the problem later if necessary.

Don't worry if the style of the translation is repetitive or pedestrian - there is no need to change words simply for the sake of elegant variation.

Don't attempt to rapid-post-edit texts on a subject that is unfamiliar to you. If you do, you will probably have to spend too much time solving basic terminology problems.

Don't embark on time-consuming research. Use only rapid research aids (Eurodicatom, knowledgeable colleagues, specialised terminology lists - which can be stored on the word processor and accessed directly if you work on screen). If a terminology problem is insoluble, bring it to the attention of the requester by putting a question mark in the margin.

Don't take rapid post-editing too seriously. If producing low-quality translation worries you - don't do it.