THE IMPACT OF POSTEDITORS' FEEDBACK
ON THE QUALITY OF MT

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After an examination of linguistic and cultural problems connected with MT from English into Italian, with remarks on French and Spanish, possible alternative approaches to MT quality standards are considered together with the techniques used for dictionary updates and linguistic analyses of errors.

In my examination of the posteditor's function in providing feedback for the improvement of the quality of MT, I must concentrate on translation from English into Italian because, although I have examined samples of MT from English into French and Spanish, I have actually performed postediting work only on material translated from English into Italian. However, it is obvious that common problems do exist, as far as the latin languages are concerned, and the development of correction procedures and the practical experience acquired from postediting MT into the various languages should make it possible to reach a point where a common approach may be used for Italian, French, Spanish and Portuguese.

Personally, I think it will be possible to adopt similar strategies for French and Italian. This conviction is based on what I have seen of French MT. Given the syntactic similarities of French and Italian, many of the linguistic problems encountered in the translation of material from English into Italian can be solved by applying solutions already adopted successfully for translations from English into French. Conversely, solutions found for problems discovered in translations from English into Italian can also be applied, in many cases, to the improvement of English into French systems as well.

By analogy, it might be inferred that the same conclusions would apply to Spanish which, apparently, is even closer to Italian than French. However, in my opinion, this is not the case, in our present context, for several reasons.

Taking the linguistic aspect first, we may consider the three languages we are discussing, Italian, Spanish and French, on five different levels:

a) phonetical
b) lexical
c) morphological
d) syntactical
e) stylistic

On the first three levels, Italian and Spanish are more similar than Italian and French, basically because they have remained closer to Latin.

An example of phonetical similarity between Italian and Spanish is the simplicity of the vowel system with the absence of both nasal and mixed vowels, so characteristic of French.

As regards lexical similarities, lists can be compiled containing thousands of Italian words which are identical, or almost, both in spelling and pronunciation with their Spanish equivalents. For example, "radio", "mano" and "lana" in both Italian and Spanish mean respectively "radio", "hand" and "wool".

Similarly, many morphological forms are identical – "canto" = "I sing", "canta" = "he or she sings", "enormemente" = "enormously", etc.

On the other hand, from a syntactical point of view, Italian has many features in common with French that it does not share with Spanish. For example, two auxiliary verbs "essere" and "avere" (corresponding to "être" and "avoir"), the use of certain prepositions, of many tenses of verbs, of the subjunctive and of the second person plural of the verb, or the infinitive, as an imperative, particularly, for giving instructions in technical documentation.

Conversely, certain grammatical characteristics of Spanish, such as the distinction between the verbs "ser" and "estar" as translations of the verb "to be", are purely lexical in Italian and do not affect the structure of the sentence.

The most difficult level, as regards linguistic description, is stylistics, basically because it is still a relatively under-developed field. A remark that can be made is that both literary Italian and French are more abstract that either Spanish or English. Thus both Italian and French rely extensively on the use of substantives to express certain processes where both English and Spanish would use verbal forms, although not necessarily the same verbal forms.

This digression on the differences and similarities between Italian and Spanish is not without relevance to MT from a theoretical point of view. In my opinion, such an analysis of similar languages casts light on the different modes of understanding of the human being and the computer. For the machine, only the structural similarities of French and Italian are relevant, whereas the phonetic similarities of Italian and Spanish, which greatly facilitate human comprehension, are of no importance at all.

There is a second aspect also which differentiates the problem of translation from English into Italian from that of English into Spanish. The fact that Spanish is used in many countries makes it inevitably necessary to prepare texts which are "multinational" in character. This is very interesting because English is also "multinational" and therefore these two languages share a certain number of problems deriving from their unique status as the principal means of expression of extremely diversified communities throughout the world.

With Italian the situation is different because the documentation is aimed at a specific country and, therefore, has to take into account both the sociological realities and the traditions of the country in which it is to be used. Probably this would also be true for Spanish as well, if the material were to be used exclusively in Spain, or in one of the Spanish-American countries, such as Argentina or Mexico. The fact that it is not, makes it necessary to adopt a "multinational" approach as regards language, style, etc.

This process of achieving a "multinational" standard is not without difficulty because it involves a preliminary study of the terminology and usage of each country. However, the point I wish to make is that both Spanish and English are "multinational" languages and the speakers of these languages are aware of this fact. Thus, an Englishman may prefer to say "pavement" and "lift" but, if he wants to avoid misunderstandings in the U.S., he has to adopt the American terms "sidewalk" and "elevator". The same also applies in Spanish where, to a certain extent, each country has its own terminology. For example, "coche" and "carro" for "car". Another example is "camion", which in Spain means "truck", or as the British would say "lorry", whereas in Mexico it means both "truck" and "bus".

With languages spoken in only one country, such as Italian, it is not necessary to achieve a "multinational" standard but, on the other hand, the final product must be "Italian" Italian. There is no other variant. The difficulty in this case is not that of formulating the "multinational" standard but rather of bringing the MT system up to a quality level where the language is as authentic as possible and not just translated English. I will go into this point in greater detail later.

Turning specifically to the problems involved in MT from English into Italian, on the basis of the work conducted so far, I would say that English and Italian are sufficiently similar in structure to make it possible to obtain reasonable machine translations once the systems in use have been adequately developed as regards all the different types of texts to be translated. I do not think that the postediting phase can be completely eliminated but I do think it can be reduced by continuous improvement of the various systems. The main grammatical difficulties encountered concern the translation of the definite article, the subjunctive, the use of numbers and measurements, and the passive.

The latter is a case which borders on stylistics because the passive is used extensively in Italian, particularly in technical contexts, much more than in French, and considerably much more than in Spanish. However, it is not used to the same extent that it is used in English. Also the Italian passive can be formed with two different auxiliaries, "venire", where a process is implied, and "essere" when referring to a state of being. The excessive use of the passive, firstly, and the misuse of the auxiliary, secondly, means that the end-product is sometimes very strange indeed.

Another of the basic difficulties in postediting computer generated material is the danger of accepting a particular construction as authentic by force of habit. Seeing a mistake repeated over and over in print makes it become so familiar that,

after a while, the posteditor is no longer sure whether it is right or wrong. This is one of the dangers that the posteditor should guard against because his objective should not be, in my opinion, to remain as close as possible to the original in an absolute sense, but to remain as close as possible to the original without reaching a point where the final text is not Italian, or French, but English written with Italian, or French, words.

Another obstacle to postediting in a multinational context is cultural. The objective must be to obtain a text which is acceptable to the end user. Each country, particularly in Europe, has its own marked personality, and this applies as much to its technical culture as to anything else. Therefore, while it is true that the language of science is basically universal, it is not true that the way in which technical information is presented in practice is the same everywhere. One has only to compare technical manuals produced in different countries to see this. The basic problem is that educational levels and standards are different, and the technical author writing for a specific context can presume, or not presume, on certain basic knowledge as the case may be.

Another factor of fundamental importance for MT is the accuracy of the source language because, in large measure, the quality of the translation produced by the machine depends on this. The computer can only follow the instructions it has been given and, unlike a human reader, it cannot imagine the meaning the author had in his mind, unless the sentence is expressed exactly in accordance with the rules of syntax that the machine knows. Also, the words used have to be those included in the computer's vocabulary and this means that authors have to avoid the use of exclusively local terminology. This applies, for example, in the case of American and British, or Spanish and Latin American, texts.

Presuming that the authors do write correctly in the source language, there remains the problem of the extent to which the posteditor should correct the final text.

Three approaches are possible:

1) to limit postediting to making the translated text comprehensible,

2) to make the text as authentic as possible (that is, not translated English but Italian, or French, as the case may be),

3) to completely adapt the text to the target language, not only grammatically, but also as regards style and content.

The first approach is, in my opinion, valid only for translations between mutually incomprehensible languages, such as English and Russian, or Italian and Chinese. Also, it is of use only for texts which the reader consults to obtain specific, highly technical data and not for documentation containing routine and repetitive procedures. Furthermore, to translate from English into a similar language like Italian, using a computer and limiting postediting to a minimum, is largely a futile exercise that reduces the computer to the status of an expensive toy. This is so because the untranslated text is, in any case, more comprehensible to the average Italian than the non postedited text. In other words, the human reader understands the meaning of the English better than the computer does.

The approach which I favour personally is the second, which is an attempt to reconcile the use of a foreign generated text with the requirements of a local reader used to texts produced by native speakers of his own language. In the case of manual translation, the translator automatically adapts the text to the requirements of the end user by leaving out extraneous material and by adding data of exclusively local interest to the reader.

This is also a third possible approach to postediting. However, with a centralized MT system, such an approach is not possible, or only possible by mutilating the text produced by the machine. The extent of the corrections required would, on the one hand, make the text useless for composition and production purposes, while, on the other, the postediting process would require more time than manual translation, once again reducing the computer to the status of an expensive toy.

I do think, nevertheless, that this kind of approach could be used for translations between similar languages, where the linguistic differences are limited, and the postediting can be oriented towards stylistic improvement of the final text.

Bearing these alternatives in mind, the postediting effort should aim at making the translated text as authentic as possible and as acceptable to the final reader as *a* locally generated text, without attempting to change the content or style of the material.

From a purely linguistic point of view, my own experience of supplying feedback consists of providing material for updates of English-Italian dictionaries and of "linguistic analyses" of the postedited computer translated texts.

The need to update the dictionaries is due to the fact that it is not always possible to supply the "best" translation of a specific term when compiling basic vocabularies. Work on MT confirms the assertion that languages are not nomenclatures and that no word in one language corresponds exactly with its equivalent in another language. The respective semantic fields are nearly always overlapping. Working on a one to one basis, the objective must be to supply the translation which will "work" in the greatest number of cases. In other words, our vocabularies are probabilistic not absolute.

As regards "linguistic analyses", these are an attempt to identify general rules for the improvement of the system, basing suggestions on actual examples found in texts. Sometimes the solution is an update to the dictionary, and sometimes it is a modification of the actual program.

To conclude, English into Italian MT systems are still fairly new, and procedures for quality improvement feedback have not yet been fully developed, but experience so far inspires confidence in the future. The objective of postediting should be to improve the efficiency of the systems by reducing the amount of postediting required while, at the same time, maintaining a quality level acceptable to the end user.