Automatic translation by micro-computer

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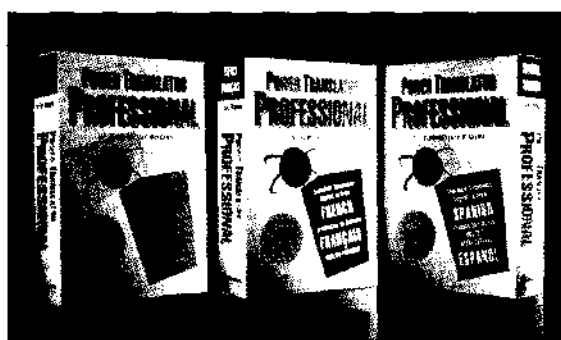## Evaluation of Power Translator

Several authors of automatic translation software are currently writing or rewriting versions of their products for WINDOWS. The battle of the operating systems seems to have been lost by Apple once and for all. GLOBALINK has thus produced a WINDOWS version of its DOS automatic translation system POWER TRANSLATOR. This article reports on a preliminary test of the product. The publicity surrounding the launch of the program is such that we felt even a quick test would be useful for translators and other potential users of POWER TRANSLATOR.

Presentation of the software

POWER TRANSLATOR PROFESSIONAL is the complete version of GLOBALINK's automatic translation software, offering the following language directions: French-English and English-French, German-English and English-German, Spanish-English and English-Spanish. The program is already available in DOS format, with both stand-alone and network versions. It functions in interactive or background mode.

The program runs under WINDOWS 3.1 or higher, on a minimum hardware platform comprising a 386 processor, 4 Mb of RAM (optimised — otherwise 6 Mb), 37 Mb of hard disk space is required for the German version, 22 Mb for the Spanish and 22 Mb for the French. The manual does not state the programming language in which the software was written.

POWER TRANSLATOR can be specialised and an optional dictionary on law, commerce and finance is available. It can create personal glossaries which the software will consult in the selected order

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■ **Note from the editor:** The evaluation of the Power Translator which follows was submitted by a professional translator from the Institute Marie Haps. It naturally reflects therefore some of those views attributed to machine translation from a translator's point of view. However, although language translators themselves constitute an important group of users it must be remembered that Power Translator users do not necessarily require any linguistic ability. The product is not specifically aimed at translators although it may help to increase their productivity. Its original intention was to fulfil more basic and immediate translation needs.

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of priority. The dictionary supplied with the system can also be added to the sources of the system.

Linguistic profile

The manual instructs the user to "Use short and clear sentences [ ] Choose words which are not ambiguous. Avoid slang or uncommon expressions, unless you wish to add them to the dictionary of semantic units. Use simple punctuation and sentence structure. Include relative pronouns and other words that help improve the clarity of the sentence".

Speed and quality

We calculated that POWER TRANSLATOR PROFESSIONAL translates 270 words in one minute 45 seconds. A text translated in ten minutes by a human translator with a word processor assisted by a background glossary utility took POWER TRANSLATOR 20 minutes, including revision.

Here is the first sample text we fed into the system:

Monsieur,
Je vous envoie en annexe ma facture, d'un montant de X francs, pour la traduction que j'ai eu le plaisir de faire pour vous.

Veuillez prendre note de nos conditions de règlement du montant.
En vous remerciant encore de votre commande, je reste à votre disposition pour tout travail de traduction et de réécriture et vous prie d'agréer, Monsieur, l'assurance de ma considération distinguée.

Ch. Student
Traducteur-Juré
près le tribunal de Première instance de Bruxelles

This is the translation produced without the optional specialist "law, commerce and finance" dictionary supplied by GLOBALINK:

Sir,
I send you annexes some my invoice, an amount of X francs, for the translation that I have been pleased to make for you. Please to take note our conditions of regulation of the amount.
By thanking you again for your order, I remain to your disposition for all work of translation and @@réécriture and prays you to accept, Sir, the insurance of my distinguished consideration.

Ch. Student
Translator-Juror
near the First Authority court of Brussels

The translation is literal. Its correction required a knowledge of the source language and a careful reading of the original text. The system made heavy grammatical mistakes

A second translation using the "law, commerce and finance" dictionary produced the following text.

Sir,
I send you annexes some my invoice, an amount of X francs, for the translation that I have been pleased to make for you. Please to take note our conditions of settlement of the amount.
By thanking you again for your order, I remain to your disposition for all work of translation and rewriting work and prays you to accept, Sir, the insurance of my distinguished consideration.

Ch. Student
Translator-Juror
near the First Authority court of Brussels

This shows that standard courtesy formulas are not included in the "law, commerce and finance" dictionary, which merely contains a number of variants for the word *règlement*.

This second sample relates to the economy:

Les années 1980 ont été caractérisées en Suisse par une croissance modérée et non inflationniste, des soldes budgétaires et extérieurs équilibrés, une monnaie forte et un chômage inexistant. Au début des années 1990, un certain nombre de déséquilibrés sont apparus: inflation relativement élevée, chômage structurel, dégradation des soldes budgétaires, affaiblissement du franc suisse contre le mark et longue contraction de l'activité. Toutefois la situation s'est améliorée depuis la mi-1993: la reprise de l'activité reste modérée mais semble bien assurée, les prix sont maîtrisés, le franc suisse est à nouveau proche de son niveau des années 1980 contre le mark et les taux longs suisses sont restés, lors de la remontée générale des taux longs, les plus bas d'Europe.

And here is the translation produced with the assistance of the "law, commerce and finance" dictionary.

Years 1980 have been characterised in Switzerland by a moderate growth and inflationary not, balanced exterior and budgetary balances, a hard currency and a non-existent abstention from work. In the beginning of years 1990, a certain number of imbalances are @@apparus: relatively raised inflation, structural abstention from work, budgetary balance degradation, weakening of the free Swiss against the @@mark and long contraction of the activity. Nevertheless, the situation has improved since the mi-1993: the retaking of the activity remains moderated by seems estate insured, costs are controlled, the free Swiss is had new near to its level of years 1980 against the @@mark and Swiss long rate have remained, during the general ascent of long rate, lowest of Europe.

The user manual lists common errors made by the system when translating from English into French. An example is provided in each case (our examples are quoted from the GLOBALINK manual):

a. Incorrect choice of preposition, omission or incorrect insertion of a preposition:

The knowledge is disseminated in three ways →
La connaissance est disséminée *dans* trois manières.
To assist the staff on these advisory missions →
Assister le personnel *sur* ces missions consultatives.
Au Sud de la France, il y a de belles plages →
To the south of France, there are beautiful beaches →
Cette île a déclaré son indépendence de la France →
This island has declared its independence *France*

b. Omission of articles, incorrect choice of articles

One development has been positive: greater economic diversification →
Un développement a été positif: *plus grande diversification* économique
Dans les 60 jours suivant l'enregistrement de la plainte →
In 60 days following the recording of the complaint
Le colis arrivera dans une ou deux heures →
The parcel will arrive in *an* or two hours

c. Incorrect tenses:

I read the book yesterday →
J'ai lu le livre hier
Hier, je suis allé au marché
Yesterday, I *have gone* to the market

d. Incorrect grammatical interpretation:

This is mainly intended to provide a support for the advisory missions →
C'est essentiellement destiné à fournir un moyen de soutien pour les missions consultatives

e. Incorrect agreement of gender and number:

Quiconque désire apprendre pourra profiter des renseignements que renferme l'almanach →
Whoever desires to learn will be able to profit from information *that contains the almanac*
Je veux des pommes et des poires vertes →
I want *apples and green pears*

f. Contextual errors:

The document must run five pages →
Le document doit *courir* cinq pages

We also found that certain constructions were not translated. Nouns ending in -*ing*, for instance, were systematically translated by present participles, homographic verbal nouns and infinitives. Analysis of our samples indicated, therefore, that the system works on the basis of elementary syntactic analysis, without analysing the whole sentence.

Dictionaries and grammars

The manual does not specify the reference works used (Bescherelle, Grévisse, etc.) nor the grammatical rules underpinning the analysis. The grammars are not accessible to the user, even indirectly. It is for example impossible to display a syntactic analytical tree as can be done by METAL (Siemens Nixdorf), for instance.

GLOBALINK does not state the size of the general dictionary, but we counted a total of 1,600 entries for the letter 'a'. We found that it took an inexperienced user about a minute to add a dictionary entry.

The dictionaries do not seem compressed.

During the translation process, POWER TRANSLATOR lists the words that are not in the dictionary. For polysemous terms, it is necessary to deal with a number of dictionaries, that is to encode a meaning with its equivalent in the general dictionary and to enter one or more other meanings in one or more user-defined dictionaries. This solution is very cumbersome.

One can add or suppress certain words or terms in POWER TRANSLATOR's dictionaries. The same goes for replacing one equivalent of a term with another, without suppressing the link between the term and its existing equivalent. Dictionary modifications are reversible and are saved solely in user files. Even in this mode, dictionary entries for certain words are write-protected to preserve the coherence of translations. It is probably impossible to encode expressions or sentences in the dictionary.

Interfaces

POWER TRANSLATOR is unable to read texts from magnetic tapes or optical-character readers, but can read diskettes.

A small editor is incorporated in the system for users whose translations do not have to be word-processed. Any ASCII text can be imported for translation, as can texts typed with a standard commercial wordprocessor. The pagination of word-processed source texts is reproduced in the target text. However, POWER TRANSLATOR cannot run in background mode from within a word-processor.

An interlaced display might be required for post-editing. A sentence from the source text can then be displayed alongside the corresponding sentence from the target text.

Queuing is not provided. In other words, the computer cannot launch the translation of several texts if they are located in different files. Nor is it possible to move the order of the translation jobs, to stop some of them or to interrupt work in progress.

Source or translated texts can be printed out by clicking an icon. Translations cannot, however, be sent to a photocomposer or a fax/modem.

Installation, set-up and assistance

Installation of POWER TRANSLATOR is straightforward but instructions are in English only. The user guide for the English-French version of the package is, however, printed in both languages.

The following elements can be customised: display language, the position of the window containing translated texts, the maximum length of titles and headers, the character used to mark sections of text that do not require translation, the default dictionary and the default path for texts to be translated and for translated texts.

On-line help provides all the information set out in the user guide. GLOBALINK does not provide a tutorial program for POWER TRANSLATOR, but since the package is easy to use, no more than a day will be needed to learn it.

Conclusions

POWER TRANSLATOR PROFESSIONAL costs a mere half the price of a word processor. An automatic translation system like METAL, which offers syntactic analysis of sentences requires a mini-computer to run.

The professional translator would be better served by a word processor linked to electronic dictionaries managed with a glossary management system like MULTITERM, MTX etc. As for mailing, standard letters or letters typed with the assistance of the "glossary" function of word processors would do the job more effectively and quickly in a great many cases.

Since this article was written GLOBALINK have launched TELEGRAPH, a new and more advanced product. It is available in 4 versions for translating documents between English and Spanish, French, German or Italian. Other languages will also be available in the future. It allows you to create new documents, enter scanned text, e-mail or information from the Internet or import word processing files. It has import and export filters for Microsoft Word, Novel WordPerfect, Lotus Ami Pro and ASCII and RTF documents, ensuring that you can share your translations with others, or edit and format them using the tools you are familiar with.

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