Italian MT developer: Giovanni D'Agostini

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A new name has entered the machine translation field in 1990 with the launch of the *D'Agostini "Hypertrans" system* for translation between a number of language pairs.

The system's originator, Dr Giovanni D'Agostini, is a successful Italian patent attorney whose company has offices in Udine (head office), Bologna and Vicenza. The need in patent work to translate large amounts of documentation led him to develop their own system, as Dr D'Agostini explained when interviewed by *Language International* at the *Expolingue* language fair in Milan in March:

Il sistema di concezione di questi programmi è assolutamente nuovo e, diciamo pure, rivoluzionario, poiché è concepito per rispondere alle nostre necessità di tradurre numerosi testi di brevetti in lingua straniera.

L'attività che noi esercitiamo, è un'attività internazionale di deposito di brevetti ed assistenza legale nel settore della proprietà industriale ed intellettuale.

Da tempo avevamo constatato che non esiste un'efficiente sistema di traduzione in grado di soddisfare i nostri bisogni, e da questa considerazione sortì la nostra decisione di mettere a punto noi un sistema di traduzione più appropriato.

Dr D'Agostini said he had worked out 11 fundamental prerequisites for a system.

The first was that the instrument to be used should be something compact, available at a reasonable cost, which could only be a personal computer. The second requirement was that the system should be easy to operate. A third was that the system should operate by showing on the screen at the same time both the text to be translated and the translation itself.

The next requirement was a simple way of importing the original documents into the program, and outputting the translated texts, after correction, for collating and printing.

The requirement for the dictionary was that it should have as a base up to between 50,000 and 100,000 of the most common terms, in an open system with no limit on the volume of words, up to the maximum capacity of the hard disk.

Then the system should use a single program which can be handled and worked on by the translator himself, so that he can adapt it to his own specific needs. It is obviously important to safeguard translations done on the hard disk.

The eighth requirement, which seems to relate closely to the needs of patent translation, was that the system should translate documents of more than 10 pages, or around 2000 to 3000 words, as soon as possible.

The next requirement was that the system should essentially translate the meaning of phrases, independently as far as possible of grammatical rules, so as to provide on the screen a translation draft which would be comprehensible even to a person who was not acquainted with the language of the original text. As this point is an important one. Dr D'Agostini:

...tradurre rispettando essenzialmente il senso delle frasi indipendentemente, per quanto possibile, dalle regole grammaticali allo scopo di fornire una pretraduzione direttamente sullo schermo che sia comprensibile anche ad una persona che non conosce la lingua del documento originale.

A further requirement is reversability, the possibility of being able to translate from one language to another, and vice versa.

Finally, just one dictionary should be usable for each pair of languages either way, which means that the words in the dictionary need to be written only once, with a few exceptions, so as to reduce the volume of the dictionary, and increase the speed of consultation and translation.

On the basis of the above considerations, Dr D'Agostini chose the Apple Macintosh as the operating computer, because of its simplicity and speed, and the Apple "Hypercard" interface, with its program language "Hypertalk", as being simple for all to use.

The screen for translation displays two fields side by side scrolling vertically, and which can be compared in parallel, thus allowing direct comparison and rapid post-editing, this form of presentation being patented.

Document inputting and outputting is considerably simplified by the copying and pasting commands for the text being processed. The requirement for no limit on the volume of the dictionary, other than the capacity of the hard disk, has been met. All modifications concerning the composition of the dictionary and the revisions to the translated texts are automatically registered on the disk, thus avoiding any problems if there is a power cut.

The program does not have any substantial amount of internal grammatical instructions. The translation is done by means of a programmed dictionary (which allows user intervention), in which the words or groups of words are furnished with instructions defining their characteristics, so as to give a translation based on the analysis of phrases, rathern than a word-for-word translation. Before the system is supplied to the user, each programmed dictionary is adapted to the specifer requirements of the user and the field

in which he is working. Prospective clients are invited to send typical documents he would translate as samples.

The program for revision of the draft translation allows for word-processing treatment, including a powerful search-and-replace function.

Dr D'Agostini lays great stress on the importance of adapting the dictionary to the client's needs before the system is sold. For this reason he does not do demonstrations on general texts.

Non si fornisce alcuna prova di traduzione generale non avendo ciò alcun senso senza avera prima addattato il dizionario alle esigenze del cliente, come specificato.

Dr D'Agostini's prices are quite low, ranging from five million liras for the simpler language pairs (French or Spanish to Italian) up to 18 million liras for pairs where German is one of the languages. The language pairs available are French/Italian; Spanish/Italian; Portuguese/Italian; French/Spanish; Spanish/Portuguese; English/Italian; English/French; English/Spanish; German/Italian; French/German; Spanish/German; and English/German.

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