

Logos Corporation

European users of the Logos, one of the longest-established of machine translation systems, have formed their own user group. The Group was formed as a result of a meeting in October 1995, when Logos invited representatives of its European customers to meet in Eschborn. Some 40 people attended, from Germany, Ireland, Italy, Spain and Sweden. A member of the Unión Fenosa company, Spain was elected chairman of the new group. Plans are also being made for a group of Logos users in North America.

Logos is a company firmly established on both sides of the Atlantic. Corporate headquarters are still in New Jersey, with a sales office in Santa Clara (California) and a research unit in Boston. However, it is a company financed by large investment institutions, and many of the investors are based in Germany. The Eschborn office, which looks after the whole of Europe and the Near East, is therefore a major centre of company activity.

This latest initiative follows a series of moves by Logos to enhance its system, and as a result *Language International* General Editor *Geoffrey Kingscott* visited Logos Eschborn to talk about all these latest moves with Logos pre-sales executive *John Hatley*.

John Hatley, an American by origin, started at Logos in 1983, and has remained there since, apart from 18 months in 1992-1993 spent working on the METAL system. Before joining Logos he had spent ten years in Germany teaching English in private language schools. He saw a Logos advertisement, and was immediately attracted to the challenge which MT represented.

Listen to the customers

The group idea exemplifies John Hatley's approach, of listening to customers and identifying market needs, as much as possible. A major drawback of all machine translation conferences, he concedes, is that most of the presentations are given by vendors. He dreams of a conference where representatives of the vendors sit in the audience, while all the presentations are given by users or potential users (the latter could usefully explain why they have not yet acquired a system)!

Mr Hatley says that, whatever the virtues of the Logos system, and they are many, a major factor in the successful operation of Logos was the presence at the customer site of a highly motivated manager. That was why his activity is designated as "Pre-sales". He reeled off the names of the key individuals at the various customers, people he talks to regularly. "It needs someone to make it work", he says, "and that is why, having identified such a person, all our installations are successful. It's people that make

it a success". One such customer, Eppendorf Gerätebau, has been using Logos regularly since 1983. The favoured target customer, which Logos is always on the lookout for, would be a big German company that required constant multilingual documentation, but in fact customers vary widely, and come from several countries in Europe.

Logos publicity is always careful to emphasise the irreplaceability of the human translator, and merely claims for Logos that it carries out the many of the more mechanical and repetitive operations involved in translation.

Mr Hatley is one of those who recognise that the quality of a translation is always dependent on the quality of the source document; there is in many customer situations the old problem of translators having no influence on the original text. Even so, a human translation should often be an improvement on the original.

Mr Hatley says that Logos people spend their time being so realistic about translation, that they tend to forget just how effective machine translation can be. He described graphically the situation at a demonstration, perhaps to a new customer, on unseen text. The Logos demonstrators would be feeling the strain, sweating heavily, until the raw machine translation came up, after which the usual reaction would be: "Well, that's not at all bad".

John Hatley's pre-sales role is considered important because what is being sold is a concept, rather than a product. Machine translation cannot be sold off-the-shelf, with a handbook quickly thrown in.

In very approximate terms the cost of a machine translation system can be successfully amortised if a customer has some 2,000 pages a year to be translated in a particular language pair.

Generally speaking, it is calculated that the output of an average translator can be doubled when he becomes accustomed to using a machine translation system. Of course, for Logos to translate a document takes only seconds, but time has to be devoted by the human user to pre-edit and post-edit functions, such as new-word search, dictionary entry etc. Machine translation cannot work without the translator.



Dr. Winfield Scott Bennet

New products

Logos has always been keen to give the customer interface tools. Its first such tool, still in use, was **ALEX**, a glossary manager. In the late 1980s **ALEX** was followed by the tool **SEMANTHA**, which allows the user to write a number of semantic rules.

Logos has now added to its system a pattern matching customising tool, which allows users to identify source strings that are to be "protected" before translation, or target strings to be automatically replaced after translation. Another tool, **LogosClient**, gives remote users a tool allowing them to automatically adapt their proprietary glossaries to the Logos system. Glossaries are sent to the server along with texts for MT, and these are then automatically encoded as temporary Logos lexicons for use in translation. This user-glossary function will shortly be integrated with **ALEX** (its first user interface), so that users can review and migrate individual glossary Logos on an as-needed basis.

The Logos company has also forged links with the Eurolang Optimiser translation workstation system, which offers both translation memory and the possibility of incorporating an interface to machine translation. It is now possible with Eurolang to "open a folder" to have a text translated by Logos.

ALEX for Windows is also being developed, and current experimentation with a variety of ideas for revision processing, and semi-automatic terminology extraction from a body of continuous text is presently underway.

Another subject for Logos research is semantic fuzzy match. In commercial translation memory systems fuzzy match only applies to sentences which have a similar construction. Logos is investigating how it can use the semantic depth to provide 'semantic fuzzy matches', for example, by recognising that a sentence couched in the passive mood might be equivalent to one of similar meaning in the active mood.

Work is always proceeding on improving the Logos dictionaries, for example, by combing out obsolete material, or creating more subject-specific sub-dictionaries.

Existing Logos language pairs are English to German, English to French, English to Italian, and English to Spanish, German to English, German to French and German to Italian.

Logos is working on new language pairs, including English to Portuguese, French as a source language starting with French to English, and Japanese as a target language. Other languages would be developed according to the evaluation of demand.

Ever-attentive to voices coming from the market, John Hatley knows there is a rising desire for a Logos MT system which is hardware-independent. However, without any question Logos will continue

to support the Unix version, with Sun work stations.

"What the market wants," he says, "is easy enough to quantify: the market wants an inexpensive, hardware-independent, easy-to-use product which will accept any type of text and translate it to a consistent degree of high quality interfacing with practically any desktop publishing system in any language combination. But such a solution is not going to be available in the foreseeable future."

An examination is even being made of the feasibility of offering Logos machine translation on the Internet. At present this is just an idea which is being explored. There would have to be post-editors supporting such a system.

Interview with Winfield Scott Bennet

A few weeks before the meeting in Eschborn, Geoffrey Kingscott had interviewed one of Logos's leading researchers, *Dr Winfield Scott Bennet*, at the American Translators Association conference at Nashville.

Scott Bennet came into machine translation almost by accident. Historical linguistics was his great interest, a subject he studied at the University of Texas after taking German at a liberal arts college. He chose Texas because it was known to have one of the best programmes in the country in the Germanic languages.

Although most of the family is of English descent, he can claim German descent on both sides of the family. His mother's family came originally from Baden-Baden, while his father's mother was from Karlsruhe.

Scott Bennet served in the US Air Force as an aircraft maintenance officer for five years, serving in various parts of the United States and in Germany.

He graduated in 1968, and took his doctorate in 1973. He was vaguely thinking of an academic career at that stage, but there were no academic positions available, and he was attracted by an advertisement by Siemens, who were looking for a linguist to work on the machine translation programme which eventually became the METAL system. He inquired about the job, and found that it entailed writing the grammar rules and supervising the dictionary work; Scott Bennet fitted their requirements nicely, with his knowledge of English and German, his linguistics expertise, and his technical background. In 1979 therefore he found himself working for Siemens.

The early work was distinctly experimental, Siemens being interested in a system which they could use for their own purposes.

By 1982 progress was being made, and the Siemens team were also aware of the competition, although at that stage they had not got as far as trying out their competitors' systems. In 1986 Scott Bennet became a manager, but eventually left in

1993, by which time he had done a number of jobs, including marketing and sales.

In 1993 Scott Bennett was interviewed by *Bud Scott* at Logos, who engaged him to work at Logos as senior computational linguist. It was a wonderful feeling to get back on to grammar and linguistics side again. Another part of the job was customer support and quality assurance.

Logos is forging ahead again, and is projecting doubling the size of the linguistic group in the next year.

To find the right members for a linguistic team in machine translation is not easy. Scott Bennett believes that linguists are born and not made. What he looks for is people who are interested in language and its structure.