

alps moves to improve *European sales for computer-aided translation*

As this issue of *Language Monthly* was going to press ALPS (Automated Language Processing Systems) was due to inaugurate its new European headquarters on October 26 with a gala opening ceremony. The headquarters are in a suburb of Neuchatel, Switzerland, almost on the border of the French and German speaking areas of that country.

ALPS market an interactive computer-aided translation system, to be used by a translator, which can function on various levels. The translator can use the system simply as a multilingual word processor, or he can use selective dictionary look-up, or comprehensive dictionary look-up, or he can get the computer to generate an automatic translation which he is then free to edit.

The ALPS system derives from work originally done at Brigham Young University, in Provo, Utah, United States. Some of the early impetus for the study of machine translation at the Brigham Young University came from the Mormon Church, who are interested in translation developments to help render their scriptures and other texts into other languages. The Translation Sciences Institute, under Dr. Eldon Lytle, a pioneer of the linguistic concept of junction grammar, which provides a means of representing language structures unambiguously and was thus amenable to computerisation, was established to study the processing of natural languages.

Because of the difficulties involved in high quality fully automatic translation, a decision was made early in the project's life to switch from batch processing to real-time processing, where the translator uses the system in real time and interacts with it. By the end of the 1970s progress had been made using an IBM mainframe computer, but the limitations of the elaborate system this entailed were becoming apparent. It was realised that it would be more practical for user needs to develop a range of translator aids on more cost-effective equipment. This led to a decision to continue development in the private sector.

On January 1, 1980, ALPS was set up as an independent commercial entity

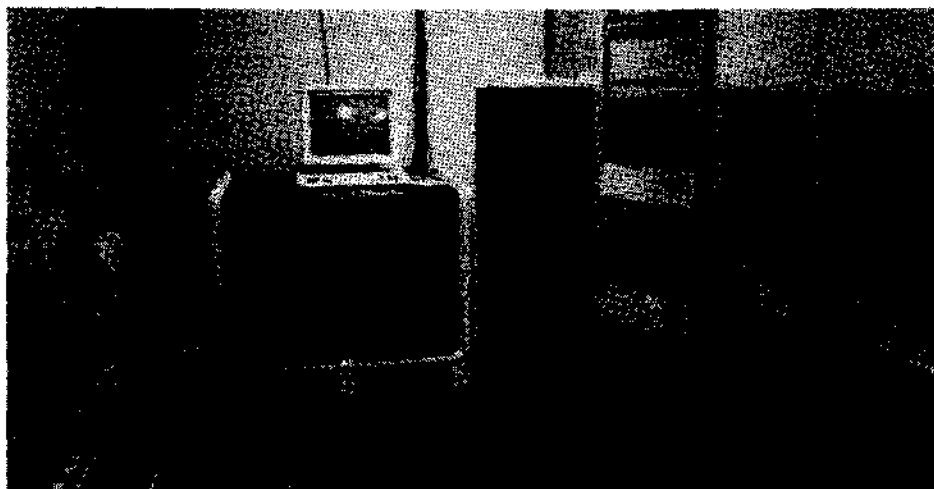
with its headquarters in Provo. Development since then has been largely financed by Rick Warner, now chairman of the board, a Mormon and leading Utah businessman, who once headed one of the largest Ford car dealerships in the United States.

In the middle of 1983 it was decided to take the project to market, and the company went out and "headhunted" Ron Mahoney, former international vice-president of Texas Instruments. Mahoney joined the company as president in October, 1983. Other business executives were brought in, including Gene Barduson, who had spent 13 years with IBM, part of the time as vice-president sales, and now occupies with ALPS the position of executive vice-president in charge of field

operations; Wayne Powers, who came from ROLM, now vice-president in charge of research and development; Bruce Lawson, former managing partner in Utah for the accountancy firm of Ernst and Whinney, who comes in as controller (roughly equivalent to administrative and finance director), and Marc Matoza, former head of European operations for Hewlett Packard, who will now head ALPS's European team.

Others in the team include Roydon Olson, former director of the Translation Science Institute, who is vice-president in charge of strategic planning, enjoined to take the long-term view, John Wittwen, head of management services, who has been with ALPS since the beginning, and who was the man chiefly responsible for bringing the ideas and people in the Translation Science Institute to the notice of Rick Warner, and Chuck Walrad, a marketing director, who worked for 13 years for the Systran machine translation system, where she was responsible for developments in support of the Chinese-English, French-English and Russian-English programs.

This high-powered team has now set its sights on the European market, particularly the multinational companies. Apart from the obvious importance of the European market in itself, in view of the language barriers which act as a barrier to trade between the various countries of the continent, ALPS was finding that a system sold to the American headquarters of a multinational organisation might then be shipped



The ALPS research and development computer room.



Rick Warner (left), chairman; Ron Mahoney (centre), president; Gene Barduson (right), executive vice president.

to Europe for installation, and that the translation activity of many multinationals was being carried out in Europe. It was also felt that for research and development purposes, and the adding of value in such matters as terminology held in the system, it was important to have a base in Europe, where so many language developments were in progress.

A third objective in having a European end to their operations was to allow for a regular exchange of people and ideas between the headquarters in Provo and Europe.

An evaluation was made of every country in Western Europe before Switzerland, with its useful mix of language skills, was chosen as the site for the base. Neuchatel, near the border of the French- and German-speaking parts of Switzerland, with a high number of Italian speakers in the population, was thought to be particularly appropriate, especially as the Swiss government have a micro-electronics programme based in Neuchatel, and ALPS have received considerable assistance and encouragement from the Federal government and from the cantonal authorities.

ALPS S.A. was registered as a company in Switzerland in July.

The ALPS training programme for customers is geared to their needs, and to showing how to access the various levels of sophistication available. One project being worked on at present is online tutorials for customers.

Research is also going on all the time on terminology, corpus analysis, and customer-oriented specialist dictionaries. Barbara Moser, of the Monterey School of Translation, has been collaborating with ALPS in this field.

Another field where work is going on apace is in making the system, which at present runs on Data General equipment, "hardware independent", so that it will run on various manufacturers' machines.

ALPS were showing their equipment at the International Printing Exhibition at the Birmingham National Exhibition Centre in September, where I visited their stand and was invited to try out their system.

The equipment and software can be supplied to work at different levels. The basis is a multilingual word processor which operates in a wide range of languages using the Latin alphabet. It has all the facilities generally available in sophisticated word processors, including three that are particularly relevant to translators. One is what ALPS call Short-stroke substitution, where a user-defined substitution dictionary contains common or lengthy terms and an abbreviated form made up by the translator. When the abbreviation is typed into the text it is immediately replaced by the longer term. Most technical texts for translation do contain constantly repeated terms for which this facility would be useful.

A second feature, common to most word processors, is the "Keysave" or "Program" facility. Every word processor manufacturer seems to coin different terms for the facilities on offer, and ALPS is no exception, as they call it a Learning Macro. The user can group up to 100 editing keystrokes in a macro and execute them with a single keystroke.

The third word processing feature which translators tend to make considerable use of is Search and Replace, when they think of, half way through the text, a better expression than the one they have used so far. The ALPS Search and Replace facility can work in both forward and backward directions.

The second level of ALPS is the selective dictionary look-up, basically giving the user the possibility of inputting his own terminology and calling it up on screen. The third level is that of automatic dictionary look-up (in English, French, German, Spanish and Italian), whereby the equivalent terms are displayed on screen, and the translator can incorporate them into the translation without retyping (or reject them and use his own judgement).

The final level throws up on the screen, sentence by sentence, a draft translation, complete with grammatical processing for word order, agreements, etc. This is currently available for English to French, English to German, English to Spanish, English to Italian, and French to English, with other language pairs under development.

The machine takes each sentence, in sequence, from the input source text, and gives a suggested translation in which every word is numbered. To change a term, the number is keyed, and that term comes to the bottom of the screen, where it can be amended as desired. Words can also be moved around with considerable ease.

When this system is first tried out, the screen does look crowded, and the presence of the numbers makes the sentence difficult to read. However, it is interesting how quickly the human eye and mind can adapt, and before long the sentence is being read with a mental blanking out of the numbers, until the moment

arrives when they are needed for amendment purposes.

When the translating system does not know itself which word to use, it may give the translator an on-screen choice between two or more terms in its machine dictionary. The translator can add a new definition of his own if he wishes, and allocate to it a priority which he thinks it deserves.

More interestingly, when the system encounters that notorious trap for machine translation out of English, the string of adjective plus two nouns, where it is not clear (to a machine brain) which noun is qualified by the adjective, the machine will actually flash up the question at the translator.

Rather maliciously I input a paragraph to the machine including the deliberately chosen phrase "open access public reference library". The machine immediately questioned "does public refer to reference or to library?" This was an impressive piece of interaction with the translator, though it did not know what to make of the extra adjectival concept of "open access".

What I could not decide from too short an acquaintance was what speed of translation I could hope to achieve using the ALPS system compared with what I can achieve keyboarding directly on to word processor, or by dictating. It is certainly a fascinating tool to use, and obviously the technique could be improved with practice. I shall watch future progress with interest.

Geoffrey Kingscott



ALPS research and development Arabic word processing.