

## NEEDS, RESEARCH AND PERSPECTIVES IN SWITZERLAND

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### 1 NEEDS

Switzerland is, as a matter of principle, a multi-lingual country : official documentation must often appear in three languages (French, German and Italian) and occasionally in four (the three above plus Romanche). The problem is not quite so severe as in the EEC, partly because the number of languages is fewer, partly because, at the legal level, the original text is definitive, with the translated versions serving only to inform. But, on the other side, daily life creates a need for translation to a degree rarely felt elsewhere : labels on products in shops, railway timetables and banking and many other kinds of documentation are all normally produced in three languages. To this should be added an ever-increasing interest in translation into and out of English, both for commercial and financial transactions and because of the tourist industry.

It can easily be imagined, therefore, that the market for translation in Switzerland is substantial, and that interest in machine translation as a way of alleviating some of the problems posed by the necessity to translation, is considerable.

### 2 RESEARCH ACTIVITY

Perhaps not surprisingly, in view of the preceding remarks, Switzerland has quite a long tradition of work on machine translation and related topics. Here, for brevity, I shall deliberately ignore much work in Artificial Intelligence which could be considered as potentially relevant to machine translation.

One of Europe's better known centres for computational linguistics, ISSCO, is based in Geneva. Since its foundation in 1972 ISSCO has had a very direct

interest in machine translation. Current projects there include the elaboration of a methodology for the evaluation of machine translation systems, multilingual generation of avalanche bulletins, investigation of unification based methods through the construction of a laboratory prototype system translating between German and French, and the design and construction of lexical and text analysis tools.

ISSCO, which belongs to a private Foundation (the Fondazione Dalle Molle), is attached to the University of Geneva, which has itself also been developing a strong interest in machine translation and related topics. The School of Translation and Interpretation offers Special Certificates in Machine Translation and in Terminology, and the Faculty of Arts will offer a Special Certificate in Computational Linguistics in the academic year 1989/1990. Furthermore, a project is under way in the Department of Linguistics which aims at a prototype English to French translation system, where the emphasis will be on achieving large scale coverage of English.

IDSIA, in Lugano, is the second Swiss Institute of the Fondazione Dalle Molle. IDSIA, too, maintains a lively interest in natural language processing, with a special emphasis on knowledge representation and Artificial Intelligence aspects of the problem.

Over recent years, the University and Canton of Neuchatel have encouraged interest in activities associated with the language industry. The commercial firm, Alps, had its European office in Neuchatel for some time, and Logos is thinking of opening an office there. Lexpertise, a firm specialising in writers' aids products and in electronic dictionaries is also established in the Canton. The University has recently created a Centre for Automatic Language Processing, with a special interest in the evaluation of speech recognisers and synthesizers.

The University of Fribourg, too, has a research project in Natural Language Understanding, which is concerned with the analysis of advertisements.

### 3 FUNDING AND COLLABORATION

The Federal Council has invested funding directly in work on machine translation since 1982. Fundamental research in the area is also funded by the National Fund for Research. As is clear from the preceding section, the private sector has also invested in research in machine translation in Switzerland.

This trend is continuing, a consortium of Swiss banks having recently concluded an in-principle agreement whereby they will become members of Swisstra, the non-profit making association set up to encourage the growth of expertise in machine translation, whose founder members are the Federal Council, the University of Geneva, the Federal Institute of Technology of Lausanne and the Fondazione Dalle Molle.

Switzerland is open to the outside world and makes a conscious and deliberate effort to follow work done elsewhere. Thus, Switzerland maintains an interest in EEC projects like Eurotra and, more recently, in the language industry as a whole, as well as collaborating in the language industry activities of the Sommet Francophone.