

## **“Machine Translation using the SRI Core Language Engine”**

Talk given by Mr. Manny Rayner of SRI International, 23 Millers Yard, Cambridge, CB2 1RQ, UK. on 21 November, 1991 at King’s College, London.

The Core Language Engine was developed with the support of the Alvey Initiative by a number of industrial and academic partners between 1986 and 1990.

It is a general purpose language parser using a unification based Phrase Structure Grammar, and was built originally “to translate English into a formal representation capable of supporting reasoning” to be used for a variety of projects requiring natural language input.

This is now being enlarged by the development of CLARE (A Contextual Reasoning and Cooperative Response Framework for the Core Language Engine) for resolving ambiguities contextually etc. This is being produced with the support of the Joint Framework for Information Technology (DTI and SERC).

Mr. Rayner started by putting their use of the CLE for MT in context by explaining that the project aimed to provide monolinguals with the ability to obtain high quality translations interactively for the purpose of international communication, *e.g.* email.

At present a system is being developed to translate between English and Swedish. Small scale experiments have also been successfully carried out to interface their system with Siemen's, to translate into German and Chinese to test its extensibility.

The system uses the CLE to create a Quasi Logical Form (QLF) representation of the input, or possibly more than one if there is ambiguity. Then CLARE is used to resolve any ambiguities either automatically or by requesting interactive input from the user, to form the RQLF (Resolved QLF).

The RQLF is used to form the final Logical Form (LF) to support translation of the QLF into the target language.

The experimental dictionary contains about 1000 words, 400 of them being function words which provide a reasonably comprehensive grammatical coverage.

Transfer into the target language is done at the QLF stage following ambiguity resolution and supported by the LF.

There are a number of transfer rules, Word for Word, Phrase for Phrase, Lexical, and Structural.

Mr. Rayner summarised the system by listing its Modularity, Simplicity, Extensibility, and Compositionality.

He would be pleased to supply copies of a paper entitled “Translation by Quasi Logical Form Transfer” which gives more detailed information about the system and further references.