

Student surveys MT technology

A student at the University of Stirling, in Scotland, Richard Balfour, has been awarded a "very clear" first class BSc honours degree after submitting a dissertation on The technology of machine translation (MT) which has already excited wider interest.

The dissertation was submitted in partial fulfilment of the requirements for the degree, in Management Science with the French language.

Richard Balfour told *Language Monthly* that he had chosen MT for three reasons, because he was keen to include French in his management dissertation, because the subject struck him as being suitable, and because it was a relatively young technology, thus lending itself to original study.

He received assistance throughout the project from Dr Delwyn Jenkins, senior lecturer in the Department of Management Science at the university, who takes a close interest in the subject. His interest, and the dissertation itself, have led to serious attempts to set up a PhD research fellowship into MT at the university. Assistance was also received from Mr Andrew Walker of the Department of French. During the work for the dissertation Mr Balfour spent a week at the offices of Weidner Translation (Europe) Limited at Chandlers Ford.

After describing the history of machine translation, and its limitations, Mr Balfour sets out to describe criteria for cost-effective use of an MT system. These are a substantial translation requirement in particular language directions, large enough to warrant extensive dictionary expansion, and with documentation using a fairly neutral style of language; there must be available finance, and suitable hardware; there must be consent of existing in-house translators. "The presence of technical expertise and a translation department is necessary if MT is to be successfully put into use".

Mr Balfour's estimate is that at least 720,000 words a year, within the same subject field and language direction, is required for the cost effective use of one personal computer MT system, and at least 1,800,000 words a year for the cost-

effective use of a mainframe MT system (the bases for these figures is set out in an appendix).

After briefly looking at other systems known to be operational, Mr Balfour describes in more detail the four major commercial systems, SYSTRAN, ALPS, LOGOS and Weidner.

The dissertation records in some detail the results of an evaluation of five machine-translated short texts. The evaluators were two experienced linguists who are members of the Department of French at Stirling University. Their comments were scathing ("from what I have seen, the post-editing work would drive a good translator round the bend in no time..." "I would not want a job as a machine translation post-editor; I would rather sell bootlaces!..."), but Mr Balfour puts them into context. MT was not suitable for short texts, and a large overall translation requirement was necessary to make MT worth while. Specialised dictionaries, once created; lead to considerably less post-editing work.

Mr Balfour then goes on to look at the market for translations and gives the results of a survey, conducted by questionnaire sent to a number of the larger British companies (listed in an appendix). Out of the 70 questionnaires sent out, 40 replies were received, of which 25 were completed questionnaires.

Fifty-two per cent of the respondents operate in-house translation departments, employing an average of seven full-time translators (the exact number ranging from one to 30). The proportion of translation work handled by outside resources, due to language combinations not covered in-house, or to overloads, was between 15% and 20%. Of these 24% use bureaux, eight per cent freelance translators, and 60% a combination of both. Sixty per cent of respondents make use of employees with foreign language capabilities. The average annual translation requirement of the respondents was around one million words. The main languages involved in translation were English, French, German, Spanish and Italian. Only 32% of respondents use word processors in their translation department, and only two respondents were current MT users. Forty-four per cent had considered the use of MT but had



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decided not to invest, 73% considering that it was too expensive, and 64% that the technology was still too young. The use of an MT system had never occurred to 24%.

Mr Balfour works out, despite the small scale of the survey, that there is an indication that organisations with a translation requirement of over 500,000 words a year tend to operate an in-house translation department, and that an average of one full-time translator is employed for every 325,000 words a year translation requirement. The responsibility for performing translations is often that of persons who are not professionally qualified, nor specifically employed, as translators. Some 16% of the demand for translations for gist, selective and information retrieval purposes is not currently being met.

Now that he has been awarded his degree Mr Balfour is looking for a job. "I am very keen to work in MT or associated fields," he says. A position of trainee manager in a multinational which is interested in MT would be perfect!"

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