

Language personality of the month

Professor Alan Melby

Geoffrey Kingscott reviews the life and achievements of a language polymath

In terminology, machine translation and translation studies few people have had such a rich and varied career as Professor Alan Melby, of Brigham Young University in Utah.

Alan Melby grew up in Indianapolis, a state where, at that time, they had a scheme in which pupils started learning foreign languages at the early (for the USA) age of 12. The young Alan was immediately intrigued by his introduction to French, and as soon as he could, when he was 16, he went on a summer immersion course, organised by Indiana University. This was held at Saint Brieuc in Brittany. There were three rules, he recalls: no drinking of alcohol, no dating of the locals, and not a word to be spoken in English.

As a member of the Church of Jesus Christ of Latter-day Saints (Mormons) Alan Melby was sent, some three years later, 'on mission', which took him for two and a half years to France and the French-speaking part of Switzerland - Geneva, Lyons, Nice, Bienne, and gave him a further opportunity to improve his French. After his mission he studied in Neuchâtel. It was in Switzerland that he first met his future wife. Born Ulla-Britta Sandholm, in Helsinki to a Finnish family from the Swedish-speaking minority, she had moved with her family to Switzerland, and had been called in to brief the missionaries on local circumstances.

On returning to the USA Alan Melby took his first degree. Although he retained his interest in languages, he also wanted to pursue his scientific interests, and took a BS in mathematics (he recalls the course as being very theoretical). Then he turned back to languages, and took a Master's degree in linguistics.

He saw even then the relationship between language and computers, though computers at that time were still huge mainframe devices. In his career he has always taken a lively interest in both the philosophical track and the practical track, and has always sought to make the connections between the two.

In 1970 he joined the machine translation programme at Brigham Young University (BYU) in Utah to work on tools. He was in fact planning to go off somewhere else for his PhD because in United States academic circles it is somewhat frowned upon to do a PhD in the department where you have been working. However an opportunity came up to do his PhD at BYU though in a completely different part of the university. Alan Melby did his research working with the Acoustics Research Group in the physics department, generating more natural-sounding intonation contours in synthetic speech. It was an inter-departmental PhD involving physics, electrical engineering, computer science and linguistics.

Subsequently, in 1974, he applied for and obtained a position in BYU's College of Humanities, teaching general linguistics, plus spending some 25% of his time in private on-campus research. He also began to establish off-campus development interests, in the companies LinguaTech and TermSoft which he set up.

By the beginning of the 1980s he had started to work out his ideas for a translator work station, and gave a paper on this at the 1982 COLING conference. For a list of Alan Melby's publications over the years see his website www.ttt.org (ttt stands for Translation, Theory and Technology). It was as early as the 1970s that he discovered that Martin Kay had had similar ideas, and they discovered each other. It must be recalled that in those days few people thought in terms of translation tools. At that time there was very little choice between old-fashioned translation on the one hand, and fully-blown machine translation on the other. Except for the work of Xerox PARC by Martin Kay and the work in Provo, there was very little going on in the way of translation tools in the 1978-1982 timeframe. Indeed even back in the 1970s one MT specialist's reaction to his interest in what became the translator work station concept was to ask why he was making a place for human beings when the whole process would soon be fully automated.

His COLING paper, based on ideas he developed starting in the late 1970s, was compatible with but not identical to a paper by Kay written about 1980 but not widely distributed at the time. Kay's paper included features roughly corresponding to the first two levels of his workstation design but did not propose the third level, an integration with machine translation. About 1981 he published a paper on bilingual concordances in the LACUS Forum (perhaps one of the first operational software applications using indexed bi-text). About the same time as these three papers, the Alps Autoterm product, which would become the direct or indirect basis for all subsequent translation memory products was being readied for release by his former BYU colleagues.

However, time has justified the Melby approach. Indeed the multi-level work station he was proposing then is only now starting to come about.

The philosophical track in Alan Melby's mind led him to speculate on man and machine - why human beings could do some tasks with ease while computers were struggling with even the basic steps, and why computers handled other matters with a speed and facility which were far beyond the capacity of the human mind. Then the practical track led him to work on user interfaces, translator tools, data exchange and terminology. He held a visiting professorship at the Collège de France in 1990,

when he gave a series of lectures on possible theoretical bases for the limitations of computers in translating just like humans. A 1995 lecture on this topic (The Barker lecture) is on his website, and his work on this topic continues.

Some of the first practical results came in terminology, and taking a structured text approach to terminology management. It seems simple now but in fact putting information inside the record (the Melby solution was to use curly brackets - { }) was an imaginative leap forward, and was an approach which anticipated SGML. Alan's work resulted in the Mercury terminology management system. Mercury was sold as Termex in Europe, where the Mercury name was not available; later, in order to have a name which could be used worldwide, Mercury/Termex became MTX.

Philosophically Alan Melby became concerned that no one product should dominate in linguistic resources, and particularly in terminology management. So he deliberately created Mercury as an open system, thereby ensuring that subsequent competing products would have to be open too, and that it would be easy to import and export their terminologies. And that is exactly what happened. But an import/export capability is only part of the puzzle since interchange requires the export format of one tool to match the import format of another. That is where a standard interchange format, such as MARTIF (see below), comes in.

Alan Melby's name will always be associated with advances in terminology exchange. His involvement came about in a curious way. On one occasion, when he was presenting Mercury at a conference of the American Translators' Association, someone from the audience asked why it was not compatible with the international standard called MATER. Alan Melby admitted with some embarrassment that he did not know of this standard, but as soon as the conference was over he made it his business to track MATER down. It turned out that MATER was not yet a fully-fledged international standard, but it did put Alan Melby in touch with Christian Galinski, director of the Vienna-based Infoterm organisation.

There were problems with MATER, because of the platform chosen, nine-track magnetic reel tape, at a time when magnetic tape was being superseded by other electronic media. But in order to maintain the momentum Alan Melby worked with Christian Galinski to produce MicroMATER. But events overtook them again, for SGML appeared on the scene. The TEI standard then appeared based on SGML. Melby and Galinski quickly recognised that SGML was the way to go, and took MicroMATER into TEI. Then came TIF, and then MARTIF, which is the latest state of the art. The stage at which MARTIF finds itself is for final voting: delegates may only say whether the final comments were properly implemented in the final draft. It is past the ISO stage where new comments are requested. Although once it is a full international standard, amendments can be made.

As soon as he had made contact with Christian Galinski Alan Melby was brought into the work of ISO 37, the committee of the International Standards Organisation which deals with terminology (for the origins of ISO 37 see the article on the centenary of Eugen Wüster's birth in *LT11*). The ISO 37 work now takes up a lot of his time, but that does not stop him being active in many other organisations. In the Association for Machine Translation in the Americas he is chairman of the Data Exchange Standards Group. He has just been elected a member of the board of directors of the American Translators' Association. He is a member of the TermNet advisory board. In the Localisation Industries Standards Association he is a founding member of OSCAR, the data exchange standards group and he has played a leading role in the LEIT initiative, which monitors and promotes worldwide localisation training in education.

For many years Alan Melby has worked with boy scouts, and back home in Provo, Utah, he is scoutmaster of Troop 37. In 1987, as part of the 150th anniversary celebrations, he took a group of his scouts on an eight-day backpacking trek covering the last 50 miles of the 1847 trail of the Mormon pioneers, starting from near the Wyoming state border and going all the way to the Salt Lake Valley.

A 1998 accomplishment was that all of the customers of his World Cup soccer travel bureau got tickets for the matches they wanted to see. As soccer fans will know, this was an accomplishment indeed, because shortage of tickets, especially for followers of the game travelling to France from other countries, was one of the major problems of this year's World Cup. And this was a typical Melby coup - seeing a problem ahead of everyone else and devising a strategy to deal with it.

What happened is that all six of the Melby children (three boys and three girls) are soccer fans, and were disappointed not to get match tickets when the 1994 series was held in the United States. So Alan set up, four years in advance, his own specialist travel bureau (Cup 98) to plan package tours for the 1998 world cup in France. They set up their own website, were a subject of an article in the newspaper *USA Today*, and when the time came for the World Cup competition, the whole Melby family set to work operating as tour guides.

If any quality best describes Alan Melby to my mind, it is exuberance. He brings a positive attitude, an unshaken cheerfulness, and a welcome zest to our language world. ■

