Summary of the concluding discussion

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During the Workshop, several issues came up that could not be followed fully during the question and answer part of the presentations. In the concluding discussion, the participants were asked to raise any question that they felt should be dealt with in more depth. Of the subjects proposed some were discussed in more depth and the conclusions are summarised below.

Profiles of human resources

A large translation task involving linguistic technology ideally needs persons with several specialisations. The following were identified:

A **Project Manager** controls the project throughout its lifetime and performs the more or less standard management tasks, including human resources management.

For the design of the project, a **Language Engineer** assumes the role of consultant. He or she analyses the information flows and decides on the type of technology to use, the integration of the various types of tools, the workflow of the project, the necessary human resources and the timings involved. This should be a person with experience in computer translation projects, ideally someone with qualifications in computer technology and with a profound understanding of what translation involves.

A relatively new idea was the inclusion of a **Linguistic Assistant** in the translation process. There are enough tasks, such as text alignment, preparation and management of documents and linguistic resources, batch terminological research, reference document search and post-processing, that need not necessarily be performed by a highly paid translator. These tasks can be dealt with by linguistically sensitive secretaries, for whom the resulting variety would add to their job satisfaction.

Finally, a **Translation Technician** would take care of the more computer-oriented tasks such as the setting up and managing of networks of multilingually enabled computers and the managing of multilingual databases. This person would perform also the function of a general technical assistant whenever there are a sufficient number of translators to make it feasible.

Obviously, the **Translators** themselves take centre stage. Ideally they are involved only after all necessary preparation has been done for them by the support staff. Like the star conductor, they only appear for the final performance once the orchestra has been trained by their assistants.

In practice however, it is rare for projects to be of such size to make feasible the deployment of such a variety of specialised personnel. More likely, the translators themselves need to take on all these roles and become multi-talented in areas that have

little directly to do with translation. These new functions are getting added to the job descriptions of translators. And they still need to be good translators…

The Language Assistant could, however, represent a profession with a good future, if one is to judge by the increasing use of translation technology. Much as dentists and doctors employ specially-trained Medical Assistants and lawyers employ specially-trained Legal Assistants, one may envisage that in the same way Language Assistants could very well find satisafctory employment in large translation agencies.

Education in translation technology

Most translators acquire computer technology skills only after they leave university. However, the great increase in the use of computer aids for translation creates a need for training in these tools already as part of the standard translator education. This should be compulsory not only for translators, but also for technical authors, managers of translation projects and, last but not least, customers with large translation requirements.

Universities need to adapt their curricula to this changing environment[5]. It is not yet, however, evident exactly what constitutes the basic, core training for the future professionals. Clearly, courses should include information about terminological databases, translation memories, machine translation – especially since it has moved to the desktop – and basic computer skills with an emphasis on multilingual text processing. Skills on managing technological change would also be very welcome.

Time on a course, however, is limited. To include new topics, the whole balance of translation studies will have to change. For the moment though, the awareness of universities needs to be stimulated – by articles, seminars and concrete feedback from the translation world. The EAMT also has a role to play in this area.

“Merely a management issue…”

To write off the difficulties inherent in the introduction of translation technology as purely a management issue is to understate the challenge. Most organisations tend to underestimate the effort necessary in re-engineering the processes of multilingual document production, and then, when technology is finally introduced, there is a tendency to ape the traditional working methods. This obviously prevents the exploitation of the full potential of the tools.

The eternal question is: should technology dictate the process or should technology follow a given process? The question here is not as philosophical as it might seem. Ten years ago the revolution that translation memories brought to multilingual document production could not even be imagined. Now, companies design their workflow around the technological capabilities of the tools they have chosen.

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[5] An attempt at a solution is the LETRAC project, funded in part by the European Commission’s Language Engineering programme, in which nine European universities and organisations try to define a new curriculum for translation studies by means of questionnaires and input from high-level translation professionals.

The fact that machines are rigid has often a beneficial effect on the working methods of humans. Individual translator choices, with otherwise erratic effects on document quality and productivity, tend to be replaced by a streamlined translation workflow, with gains for the final product in terms of quality and faster delivery time.

These changes, however, need to be integrated into the working methods of the whole organisation. In the place of translation as a "necessary evil" multilingualism comes as a business opportunity. The attitude of senior managers needs to change accordingly, but once they are convinced it is usually easy to integrate the necessary changes within the whole organisation.

Translation metrics

In the short time available in the discussion session the subject could not be adequately treated. However, a major concern was the issue of what measures and criteria should be employed in order to decide which technology would be best for the treatment of particular types of documents and texts, including information about the available linguistic resources[6]. Translation metrics in this context was understood to include costs, investments, productivity, but mainly metrics of text and linguistic resources as decision aids.

Productivity is not just about number of pages per day but even more the quotient of the total input and the value of the end product. Investment in technology versus gains in productivity would seem to form a curve with an asymptote, meaning that after a while benefits start to flatten out.

The cost of translation can be measured fairly easily. However, no realistic estimates can be readily established as to the cost of *not* translating! This holds especially true for large political organisations such as the United Nations or the European Commission.

Future EAMT Workshops

Finally, suggestions were made for subjects and for the organisation of future EAMT Workshops. These were:

- Is the use of machine translation declining? What about the balance between use of translation memories and machine translation?
- Should the EAMT promote any particular type of technology?
- What are or should be the visions, the dreams of translators? The question is put in a pro-active way which should allow the focusing of technological developments. What should be coming next?
- Motivation and involvement in the use of translation technology.

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[6] Another European project, TRANSROUTER, deals with exactly this issue. Based on data about the text, repetitivity, syntactic complexity, the availability of terminology, translation memories and the performance of the available machine translation system, an expert system would suggest the optimum tools to use in each particular case.

- Languages of the countries of Central and Eastern Europe. The expansion of the European Union and the opening of new markets will create new multilingual needs. What is the position of the European Union?

- The impact of the internet, particularly in respect to the provision and pricing structure of machine translation services.

- Development of exchange standards for terminology, translation memories and their integration in machine translation. Integration of tools and multilingual resources.

- Metrics as decision aids for translation technology. Expert systems (see above).

- Integration of speech recognition in translator's workbenches.

- Multilingual information management.

- Intellectual property rights. Liabilities.

- Suggestion for future workshops: the inclusion of one hour of short commercial presentations. However, it was felt that the present scheme with fewer but more in-depth papers and time for discussion is good.

Next Workshop

The next EAMT Workshop is scheduled for Spring 1999 in Prague. It will focus on the languages of the Central and Eastern Europe, challenges and opportunities.

Company information

Océ Technologies is a manufacturer of copiers, printers, plotters, design & engineering equipment and supplies. It has operating companies in 30 countries and is active in 80 countries. Océ employs 17000 people worldwide; 3000 are based at the head office in Venlo, the Netherlands**.**

SAP AG was founded in 1972 and today is the world leader in integrated business solutions with the two products R/2 and R/3 instaled in more than 80 countries. It is one of the four biggest software companies in the world with more than 10,000 employees and represented in over 40 countries. The Translation Department has a staff of 75 English translators (+15 freelancers) and 30 translators (+35 freelancers and translation bureaus) for the various other languages, and with well over 70 technical writers being involved in writing documentation. SAP reached the point some years ago when the demand for translation of its documentation could not be met by human translators alone. Thus, the Multilingual Technology Department was set up to suppport further aspects of the translation workflow, to investigate new translation tools (e.g. translation memories), to introduce new language pairs in machine translation, and to provide internal technical support for the company.

The **Translation Service of the European Commission** is situated in Brussels and Luxembourg. The SdT houses today about 1 200 translators, 100 linguistic support staff, 100 management staff as well as 500 secretaries and assistants. The world's largest translation service, it produces about one million pages per year, in a combination of in-house, free-lance and machine production. Currently undergoing major technological modernisation. The main translation aids in use, being installed, or overhauled, include: the EURODICAUTOM terminological database; the EURAMIS Linguistic Resources Database and search engines combined with Translator's Workbench and other linguistic applications; the SYSTRAN machine translation system; and a document server with full-text search and retrieval possibilities.

The **Center for Sprogteknologi**, CST, is a research centre under the Danish Ministry of Research and Information Technology. The Centre was established in 1991 with the purpose of promoting research and development in computational linguistics and language technology. CST has some 20 employees with expertise in machine translation, general and computational linguistics, computational lexicography, computer science and Danish and a number of other languages. The Centre participates in European and national research programmes, and performs commercial development and consultancy under contracts with Danish as well as foreign companies.

The **Xerox Research Centre Europe** (XRCE) was formed in 1992 and was originally named the Rank Xerox Research Centre (RXRC). The Centre comprises three organisations located at two sites, Grenoble in France and Cambridge, England. Both sites have research laboratories. In addition, at Grenoble there is a development group (Advanced Technology and Systems). Research in the Grenoble Laboratory focuses on enabling technologies to support innovative document technologies and services both within and between geographically distributed and culturally diverse organisations. The two main areas of interest are Multi Lingual Theory and Technology and Co-ordination Technologies. Advanced Technology and Services draws on each Laboratory as well as Xerox and the external technical community to integrate novel systems and solutions. Since its inauguration, the Centre has grown rapidly and now comprises approximately 90 people, 60 in Grenoble and 30 in Cambridge. Teams at both Grenoble and Cambridge have been very successful in exploring commercialisation opportunities for the Centre's technologies. The MLTT team has led the way through the transfer of its technologies to a new business (Xtras) created within the Document Services Group. It has also been successful in transferring technology for inclusion in products and services from InXsight, XBS and Xerox UK, while within ATS a number of successful joint ventures are underway.