Specialized Translation in the Framework of Multilingual and Multimedia Document Management

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Zusammenfassung
Diese Untersuchung zeigt das Fachübersetzen als eine von drei Phasen der Bearbeitung und des Managements multimedialer Dokumente. Sie beschreibt damit einen der zentralen Bereiche der heutigen Fachkommunikation. Die hier wiedergegebenen Ergebnisse legen es meines Erachtens nahe, das Forschungsinteresse auf den Gesamtbearbeitungsprozess zu richten, statt das Übersetzen als alleinigen Untersuchungsgegenstand herauszugreifen. Die neuen Eigenschaften der heute praktisch ausnahmslos elektronischen Dokumente und die neuartigen Merkmale der in erheblichem Umfang durch Softwarehilfsmittel unterstützten, aber zugleich auch gesteuerten und gegängelten Arbeitsprozesse, haben Konsequenzen, die ich lenkende Einflüsse nenne und die deutlich nachweisbare Auswirkungen auf die traditionelleren Besonderheiten, insbesondere Inhalt und Sprache der Fachkommunikation besitzen.

The theory

Translation studies is a large discipline, and the question may at times arise, whether it really covers the craft of specialized translation with its many peculiarities. I therefore try in this study to inventory the professional activity of specialized translation in order to get a clearer view of what an adequately modified discipline of translation studies will have to account for. My line of reasoning follows and in part extends the integrative model of specialized communication I earlier suggested (Schubert 2007: 243–326).

The object

Specialized translation shares many features with other types of translation work but is set off against them by a series of specific characteristics. The specifics include the content and many linguistic and pragmatic properties of the texts being translated, most prominently genre conventions. For the linguistically educated translation scholar, these types of characteristics come most readily to mind. Widening the horizon beyond linguistics proper, however, one may also note among the specifics the covertness of the deliverables (House 1977: 188–204), the conditions under which the translators involved are educated and not least the particular ways in which the work is carried out, including the tools used for doing so. The present study looks at the last of these specifics, the process of translating specialized texts.

The process

The process of translating can be studied from two vantage points, an internal and an external perspective. Investigating the internal process means attempting to elucidate the nature of the mental activity involved in translating a text (Krings 1986, Lörscher 1991). The techniques for this kind of research come to some extent from experimental psychology. Two frequently

used techniques are introspection and retrospection in which the translators try to word the thoughts they have or had while translating. These techniques are indirect and they may at best capture some of the conscious share of the relevant mental activity. Another technique is logging the keyboard, mouse and screen actions carried out by translators working on a computer and tracking their eye movements by means of purpose-made logging and eye-tracking software. These techniques are to an even higher degree indirect, but they do try to substantiate both the conscious and the unconscious mental activity (Krings 1986, Jääskeläinen 1998/2001, Hansen 2005; cf. Schubert 2007:199).

The investigation of the internal, mental translation process is related to the research direction which views translating as a process of decision-making. This is an interesting strand of translation studies which takes its onset in the theory of literary translation (Levý 1967) and is later taken up in the emerging theory of translation at large and specialized translation in particular (e.g. Reiß 1981/2000, Kußmaul 1986/1994, Wilss 1988:92–107, 1998/2001, Gerzymisch-Arbogast 1996:260–272, 1997). The concept of decision-making returns in a theoretically much more carefully based framework in the methodical approach of Gerzymisch-Arbogast and Mudersbach (1998). A common feature in most of these theories is that they conceive the translators as a breed of authors who are free to make decisions as they please. However, professionals working at a given task and making decisions both at the macro and the micro level are not free to choose whatever next step they may see fit. In specialized translation in particular, many small steps of the overall decision-making process are influenced, constrained or controlled from the outside. The issues may well be settled even before the translators begin their work. It is therefore worthwhile looking at the external process as well.

To give a rough definition, I subsume under the external translation process everything in a translator's work which can be recorded by an observer without resorting to any psychological methods. This includes in particular all interactions with other people.

The stages

The setting of the present study can be sketched in a few sentences. The object of study is the translation of specialized documents. The focus is on the external process. And the primary object of interest lies in the controlling influences which have an effect on the translators' decision-making (cf. the concept of *lenkender Einfluss*, Schubert 2007:267–311).

Needless to say, in a translation process the strongest and most immediate influence is exerted by the source document. Its contents defines the contents of the target document. Some deviations may be called for, but as a general rule a document can only count as a translation, if it renders the contents of the source document. Because of this obvious fact, it is advisable to consider not only the translation process proper, but also to include the process in which the source document is created. This insight considerably enlarges the field of study by encompassing along with the work of specialized translators also that of technical communicators (also called technical writers). Through this decision, the object of study becomes a sequence of processes consisting of a production and a translation stage.

Before proceeding to look for a theory which might cover this enlarged field of study, it may be advisable to make sure that the field is now large enough. In more concrete terms, the questions is whether there are more worksteps carried out on documents beyond producing and translating. To do this, consider the image of subsequent stages through which a workpiece passes. This is an image widely used in many fields of study. In some disciplines

such as business administration and software engineering the sequence of stages is termed *product lifecycle*. This term describes the entire path a workpiece follows from its very creation through various stages of processing and use until it is eventually taken out of use.

Applying this concept to documents shows that there is at least one more major process which needs to be taken into account. When a document has been created and possibly translated, it may be stored, archived and held in some repository for future use. Not only for use by readers, but also, and maybe primarily, for being re-used by technical communicators and specialized translators in new projects and thereby in new processes. This yields a sequence of three stages: producing, translating and organizing (cf. Schubert 2005).

The fragments

The third process in the sequence in which documents are stored and organized has not yet received a single, generally accepted label. I call it *documentation management*. As a basic technique, documentation management comprises the management of data in the form of computer files or items in databases etc. If these files or items are documents, this stage equals document management. However, in the electronic age the document is no longer the smallest unit handled in the processes under scrutiny here. The units produced, translated and organized are more exactly small blocks which are often called *contents*. These are blocks of text, possibly enriched with images or various kinds of graphics, diagrams, videos, audio sequences etc. They are held in content management systems. These systems are used to store the contents and to assemble them into documents.

The documents made up of such contents are sometimes called *fragmented documents*. This term is misleading, if it is taken to suggest that the document originally was a solid whole which was subsequently split up into a series of fragments. Of course this is at times done, especially to feed legacy documentation into a content management system. But in today's professional practice, the technical communicators directly produce the small blocks, that is, contents, and the translators translate isolated contents rather than coherent documents. (Hence the term *jigsaw translation*, Schubert 2003b.)

There are two main reasons why documentation is processed in these small units. The first is re-use. It is assumed that the small contents can be re-used in various documents and even in various places in the same document. In a term borrowed from computer programming, this principle of keeping a single item and re-using it whenever the relevant piece of information is needed is sometimes called the Single Point of Truth (or SPOT) rule (cf. Raymond 2003: ch. 4.2). In technical communication and translation this principle helps to save labour and money. It also helps to keep the documentation consistent. The volume of the workpieces and the short deadlines make it inevitable to have teams work on them, which makes inter-author consistency a major issue. These techniques of enforced consistency across highly modularized workpieces are positive factors for technical documentation, where consistency is a primary asset. They may be counterproductive, however, for closely related document types such as tutorials, where saying the same thing in other words may serve a fundamental pedagogical purpose.

The second reason is single-sourcing. The technique of single-source publishing builds on the observation that the same texts are often published in a variety of formats. A technical documentation may for example be published in a printed manual, on a DVD which comes with the product and on the manufacturer's website. The principle of single-sourcing implies

that the text of each content is written and stored only once in a neutral format (often XML) in a content management system and that the information about the typography, layout and overall formatting of the document to be produced is stored separately. The idea is then to produce a specific document for a specific medium from a specific sequence of contents at the push of a button.

The influences

Although I said above that the setting for the present study was clear, it must be refined in view of the discussion of the previous paragraphs. The object of study is no longer, or at least not in all cases, the translation of specialized documents. It is the production, the translation and the organization of specialized contents which will reach their recipients in the form of documents. Let this wording include traditional documents which are written by a single person as a single whole.

To elaborate on this object from the external perspective, the controlling influences should be examined. To study a work process, one has to look at the agents and the activities carried out by the agents. In other words, the communicative act should be studied. This will then shed light on the workpieces as well.

The agents

As we have seen above, the main agent in specialized communication can be a technical communicator, a specialized translator or a documentation manager. They are all engaged in producing contents or documents. Let any of these agents be called the *producer* and let those who eventually read or listen to the final document be called the *recipients* (on oral documents, cf. Schubert 2007: 6–8). The producer can be a technical communicator or a specialized translator. But there are other professions engaged in specialized communication as well. A patent application, for instance, may be written by a lawyer, and drug package inserts are often written and translated by pharmacologists or medical doctors. And quite frequently specialized communication is carried out by laypeople.

Along with the producer(s) and the recipients, who else is involved in specialized communication? A communicative act is normally believed to be initiated by a person's communicative intention. In specialized communication the person whose intentions are worded may or may not be the producer. Producers following their own intentions are for example researchers who write laboratory logbooks, research reports, scholarly articles and books. But in specialized communication we much more frequently encounter professionals who express what somebody else intends to communicate. Let this person be called the *customer*. This term extends to both an outside person, individual or representative of an enterprise or some other organization, who orders a workpiece to be made by the producer. It equally covers a person within the producer's own organization, possibly a representative of some other department or business unit, who orders a workpiece. For a free-lance professional or a subcontractor, the customer may well be an agency that is in turn serving its own customers.

One of the first translation scholars to explicitly introduce the customer (*Bedarfsträger*) in the discussion of translation settings is Holz-Mänttäri (1984:31, 91). In communicative

situations with a customer, the producer mediates the customer's communicative intention. In these cases, specialized communication is *mediated communication*.

In many assignments the number of contents and the volume of documents and documentations exceed the capacity of a single professional. Specialized communication therefore very frequently is teamwork. A strong controlling influence lies in the fact that the producer co-operates with *coproducers*. As soon as more than one person is involved, an extra need for consistency arises.

The work of technical communicators and specialized translators normally requires additional information to be researched. Let the persons from whom this information originates be called the *informants*. This is a very broad term. The informants include experts at the customer's company or elsewhere consulted at the customer's or the producer's initiative who give information in phone calls, e-mail correspondence or structured interviews. They may also be the authors of written documents such as collateral documentation provided by the customer, published and unpublished materials retrieved by the producer in libraries and archives or on the Internet. An informant can thus play a role in the communicative situation without being aware of it, and even long after his death.

There are more agents who influence the communicative act without being present in person. A rather vague factor in case is best practice. The agents who exert this controlling influence may be subsumed under the concept of the *industry* in question. Producers often take pride in deliverables "of a professional quality". That is, they wish to write or translate in the way texts or documents or contents from the relevant field are normally written. In this way, that which is common in the industry exerts some form of influence on the producers' work. It is quite difficult to precisely identify and describe this influence, but the industry's best practice is very commonly used as an (often intuitive) quality criterion when a customer assesses the deliverables.

If best practice is a controlling influence on specialized communication, academic education is as well. The standards communication professionals learned in their education guide their work in professional life. The agents for this controlling influence are the *academic teachers*.

A more obvious form of controlling influence derives from standards. These may be public standards published by *standardizing bodies* or industry standards more or less explicitly labelled as such and published by private companies, professional bodies or interest groups who may play the role of de facto standardizing bodies. In principle, standards are recommendations, not laws. I shall discuss their degree of authority below.

More authoritative than standards are laws and legal regulations such as European Union directives, so that even *legislators* are agents in specialized communication.

The act

Before looking into the instruments by which the various agents exert their influence, the communicative act itself should be analysed in more detail, so that the nature of each type of controlling influence can be made obvious.

The acts of specialized communication can be described in four dimensions (Schubert 2003a: 228, redefined 2007: 248). These are the technical content, the linguistic form, the technical

medium and the work processes. I shall in the next section review the instruments by means of which controlling influences operate and identify the dimensions of their effect.

The instruments

This study speaks of controlling influences, each exerted by specific agents. So far, I have not identified other than in passing the instruments used by these agents. (The discussion of the instruments elaborates on an overview I have given earlier, Schubert 2007: 341–342, but not published in English.)

The *job specification* is a more or less formalized, sometimes oral but usually written statement in which the customer tells the producer what to do and which rules to follow. The job specification may contain many of the instruments listed below. For example, it may identify a specific standard as compulsory for the job. The job specification affects all four dimensions.

For technical communication jobs, along with the job specification there will be *customer documentation*. Customer documentation is whatever documents the customer has that provide the producers with information on what to write. These may be notes and specifications from the research or product development departments, release notes and other documents. In some cases, the product to be described is delivered to the producers. The customer documentation affects mainly the dimension of the technical content.

For specialized translation jobs, there is a *source document*. The source document affects the dimension of the technical content, but also the linguistic form and the technical medium.

In addition, both for technical communication and for translation jobs *reference documentation* may be provided by the customer, such as the documentation of previous versions of the same product. It mainly affects the language and the medium.

The *researched information* provided indirectly (and often unknowingly) by the informants affects the technical content and the linguistic form. A prominent part of the linguistic information to be researched is terminology.

Along with the job specification, the customer may provide all kinds of *parameters*. These include both document and paragraph templates for word processing and desktop publishing systems, document type definitions for documents in markup formats such as SGML, HTML and XML, and parameter settings for translation memory and machine translation systems. The parameters affect the technical medium and the work process.

The customer may also control the producers' work by providing *resources* and making their use compulsory in the job specification. Among the most common resources are terminology databases, translation memories and sets of contents or textblocks for re-use. The resources affect all four dimensions.

Another very common instrument is the *style guide*. This is a document in which the customer (or some other body) defines rules of content, content structuring, wording, terminology and the appearance of the workpieces. Defining the appearance may necessitate the use of specific software tools, which can in turn make a tool-specific work process obligatory. The style guide therefore affects all four dimensions. Software systems which

most strongly influence the work process are translation memory systems, content management systems and workflow management systems, the former ones especially if they contain some workflow functionality.

A special, more complex kind of instrument is found in the techniques which can be subsumed under the headings of controlled language and information structuring or information design.

In specialized communication and especially in technical documentation, controlled languages are a proven instrument of control. A controlled language is an artificially simplified variant of a single natural language. It is defined as a reduction of its reference language (Schubert 2008). Controlled languages normally have a reduced vocabulary and a reduced syntax. Controlled languages are used for achieving higher intelligibility by removing ambiguous and complex structures. They may also be used with a view to improved translatability or machine-translatability.

Several techniques of information design or information structuring are common in specialized communication. These are techniques for portioning, sequencing and ordering information. Well-known techniques are Information Mapping by Horn and Funktionsdesign by Muthig and Schäflein-Armbruster. (Both systems are being commercially marketed, so that publications are scarce; cf. Horn 1986, Information Mapping 2002?, Schäflein-Armbruster 2004.) Whilst these two techniques mainly address the conceptual organization of the producers' work and thus affect the dimension of the work processes, software support for realizing and enforcing such techniques are gaining ground in technical communication. Since the portioning or "chunking" of information is one of the basic procedures in information structuring, these techniques fit in well with the requirements of content management and single-sourcing publishing. A technique now rapidly spreading, which addresses the task not from the professional's side but from the technical medium, is the Darwin Information Typing Architecture (DITA), an open-source formatting technique based on XML (Day/Priestley/Schell 2001/2005, DITA 2007).

A newer development which takes the controlled languages beyond the reductive into a constructive definition (Schubert 2008), is the suggestion to extend the control to text structures (Ley 2005).

The models

Rothkegel (1999: 7) deplores the lack of an adequate model for technical communication. I have attempted to suggest a basis for such a model. When devising it, I reviewed a selected number of communication models and related theories (Schubert 2007: 217–238) and arrived at a design which takes into account the categories and entities discussed in the present study.

The model design chooses as its basic object of study the specialized communicative act which is described in terms of the four dimensions of technical content, linguistic form, technical medium and work processes. This is the level of the *communicative act*.

The act is carried out by the producer. The producer is a professional or expert (as Holz-Mänttäri 1984 emphasizes throughout her investigation). A prerequisite for expertise is competence. The model therefore juxtaposes the four dimensions with the corresponding four

competences, viz. the knowledge resources, the language competence, the media competence and the organizational competence. This is the level of the *agents*.

It may seem surprising, if not odd, to combine two time-honoured competences as knowledge and language with two rather new, and, who knows, possibly short-lived skills as media and organization. But the empirical analysis of specialized communication in professional practice shows that the technical medium of the workpieces, the organization of the work including the tools used have an enormous impact on the language and the content of the communication. This may change more rapidly than human knowledge or language does, but right now it is an observational fact.

The producers carrying out the communicative acts do work in contact, and that is, in communication with others. I therefore add another level to the model, the level of the *community*. At this level we can locate most of the common competences, among which we find such vague entities as best practice. However, a closer analysis shows that there are smaller and larger communities which influence the specialized communication. The speciality community within which the workpiece is to be read, say that of electrical engineers, may be smaller than for example the language community in whose language the workpiece is written. I therefore split this level into a level of the *microcommunity* and a higher level of the *macrocommunity*. This distinction takes advantage of the conclusions reported by Rothkegel (1999:9) and Schmitt (1999:157).

The Conclusion

The present study shows specialized translation as one of the stages of the processing and management of multimedia documents. It thereby describes the centrepiece of today's specialized communication. In view of the findings reported here it seems to me advisable to turn the focus of our research interest towards this entire sequence of work processes rather than singling out translation as our sole object of study. The new features of documents, which are almost exclusively electronic, and the novel characteristics of processes, which are widely supported, but also controlled and constrained by software tools, display a series of functions, here termed controlling influences, which have observable repercussions on the more traditional specifics such as the content and the language of specialized communication.

References

Day, Don /Priestley, Michael /Schell, David (2001/2005) *Introduction to the Darwin Information Typing Architecture. Toward Portable Technical Information*.
– http://www-128.ibm.com/developerworks/xml/library/x-dita1/index.html (06 June 2007)
DITA Version 1.1 *Architectural Specification.* (2007)
– http://docs.oasis-open.org/dita/v1.1/OS/archspec/archspec.pdf (16 June 2008)
Gerzymisch-Arbogast, Heidrun (1996) *Termini im Kontext*. Tübingen: Narr.
Gerzymisch-Arbogast, Heidrun (1997) Translating Cultural Specifics: Macro- and Microstructural Decisions. In: Hauenschild, Christa /Heizmann, Susanne (eds.) *Machine Translation and Translation Theory.* Berlin/New York: Mouton de Gruyter. 51–67.
Gerzymisch-Arbogast, Heidrun /Mudersbach, Klaus (1998) *Methoden des wissenschaftlichen Übersetzens*. Tübingen/Basel: Francke.
– http://www.translationconcepts.org/pdf/methoden_uebersetzen.pdf (16 June 2008).
Hansen, Gyde (2005) Experience and Emotion in Empirical Translation Research with Think-aloud and Retrospection. *Meta* 50(2). 511–521.

Holz-Mänttäri, Justa (1984) *Translatorisches Handeln. Theorie und Methode*. Helsinki: Suomalainen Tiedeakatemia.

Horn, Robert E. (1986) *Engineering of Documentation – the Information Mapping Approach*. Waltham, MA: Information Mapping.

House, Juliane (1977) *A Model for Translation Quality Assessment*. Tübingen: Narr.

Information Mapping™. *A Research Note by Namahn*. (2002?) Brussels: Namahn
– http://www.namahn.com/resources/documents/note-IM.pdf (30 May 2008).

Jääskeläinen, Riitta (1998) Think-aloud Protocols. In: Baker, Mona /Malmkjær, Kirsten (eds.): *Routledge Encyclopedia of Translation Studies.* New ed. 2001. London/New York: Routledge. 265–269.

Krings, Hans P. (1986) *Was in den Köpfen von Übersetzern vorgeht.* Tübingen: Narr.

Kußmaul, Paul (1986) Übersetzen als Entscheidungsprozeß. Die Rolle der Fehleranalyse in der Übersetzungsdidaktik. In: Snell-Hornby, Mary (ed.) *Übersetzungswissenschaft – eine Neuorientierung*. 2nd ed. 1994. Tübingen/Basel: Francke. 206–229.

Levý, Jiří (1967) Translation as a Decision Process. In: *To Honor Roman Jakobson. Essays on the Occasion of His Seventieth Birthday 11 October 1966.* The Hague: Mouton. 1171–1182.

Ley, Martin (2005) *Kontrollierte Textstrukturen. Ein (linguistisches) Informationsmodell für die Technische Kommunikation.* PhD Thesis. Gießen: Justus-Liebig-Universität.
– http://geb.uni-giessen.de/geb/volltexte/2006/2713/pdf/LeyMartin-2006-01-30.pdf (04 December 2006).

Lörscher, Wolfgang (1991) *Translation Performance, Translation Process, and Translation Strategies. A Psycholinguistic Investigation*. Tübingen: Narr.

Raymond, Eric S. (2003) *The Art of UNIX Programming*. Boston etc.: Addison-Wesley.
– http://www.catb.org/~esr/writings/taoup/html/ (24 July 2008)

Reiß, Katharina (1981) Type, Kind and Individuality of Text. Decision Making in Translation. *Poetics Today* 2:4. 121–131. – Reprinted in: Lawrence Venuti (ed.) (2000) *The Translation Studies Reader*. London/ New York: Routledge. 160–171.

Rothkegel, Annely (1999) Technische Kommunikation (TK): Fragen zum Thema. In: Gerzymisch-Arbogast, Heidrun /Gile, Daniel /House, Juliane /Rothkegel, Annely /Buhl, Silke (eds.): *Wege der Übersetzungs- und Dolmetschforschung.* Tübingen: Narr. 3–12.

Schubert, Klaus (2003a) Integrative Fachkommunikation. In: Klaus Schubert (ed.): *Übersetzen und Dolmetschen. Modelle, Methoden, Technologie.* Tübingen: Narr. 225–256.

Schubert, Klaus (2003b) Jigsaw Translation. In: Gerzymisch-Arbogast, Heidrun /Hajičová, Eva /Sgall, Petr / Jettmarová, Zuzana /Rothkegel, Annely /Rothfuß-Bastian, Dorothee (eds.): *Textologie und Translation*. Tübingen: Narr. 295–304.

Schäflein-Armbruster, Robert (2004) *Planen, Strukturieren, Standardisieren mit Funktionsdesign*.
– http://web.archive.org/web/20051024091202/http://www.zindel.de/zindel/pdf/funktionsdesign04/sar_ Funktionsdesign_Man.pdf (24 July 2008).

Schmitt, Peter A. (1999) *Translation und Technik*. Tübingen: Stauffenburg.

Schubert, Klaus (2005) Translation Studies: Broaden or Deepen the Perspective? In: Dam, Helle V. /Engberg, Jan /Gerzymisch-Arbogast, Heidrun (eds.) *Knowledge Systems and Translation*. Berlin/New York: Mouton de Gruyter. 125–145.

Schubert, Klaus (2007) *Wissen, Sprache, Medium, Arbeit. Ein integratives Modell der ein- und mehrsprachigen Fachkommunikation*. Tübingen: Narr.

Schubert, Klaus (2008) Konstruktion und Reduktion. In: Krings, Hans P. /Mayer, Felix (eds.) *Sprachenvielfalt im Kontext von Fachkommunikation, Übersetzung und Fremdsprachenunterricht.* Berlin: Frank & Timme. 209–219.

Wilss, Wolfram (1988) *Kognition und Übersetzen.* Tübingen: Niemeyer.

Wilss, Wolfram (1998) Decision Making in Translation. In: Baker, Mona with Malmkjær, Kirsten (eds.) *Routledge Encyclopedia of Translation Studies.* New ed. 2001. London/New York: Routledge. 57–60.