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Terminology Work for Simultaneous Interpreters in LSP Conferences: Model and Method

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1 Introduction

Professional conference interpreters typically work for a great deal of different clients and settings of which technical conferences form an important part. In this situation, they are called to work for specialists that share a knowledge that is totally or partially unknown to laypersons and/or outsiders. As it would be impossible to acquire the same amount of knowledge as their specialized public, conference interpreters have thus to be able to constitute and to use relevant information in a very effective and specific way.

As conference interpreting consists in the simultaneous production of a target text while a previously unknown original is orally delivered by a speaker, the relevant knowledge cannot be constituted during the translation process itself. It is therefore generally accepted that interpreters need to rely on parallel texts in order to generate the necessary knowledge prior to the interpreting process for which this knowledge is deemed relevant.

But so far it is unclear how this knowledge is structured, gathered and used during the interpreting process.¹

The tentative solution consists of 2 elements: (1) to describe WHAT knowledge interpreters need for technical conferences. (2) to work out HOW this knowledge can be constituted and put into practice during simultaneous interpretation.

As for (1) it is assumed that interpreters need to know relevant terms and how these “fit together”. This implies the detailed description of terminological and ontological structures which are organized within knowledge systems. As for (2), the different working parameters and settings that are typical for simultaneous interpretation have to be specified. It is according to these parameters that the relevant knowledge structures have to be gathered and used in a strategic way in order to allow for the production of adequate target texts.

¹ ,text’ is here used in a very broad context and is not differentiated from ,discourse’ for the purposes of this paper.

2 State of research

It is widely recognized that specialized knowledge is formulated and presented under the form of (mono or plurilingual) terminologies (e.g. amongst many others: INFOTERM 1979, Schmitt 1999, Arntz/Picht/Mayer 2004).

While the subject is prominent in various fields or applications of written translation (ranging from content management to electronic documentation, localization or computer aided translation), it seems to play a rather unimportant role in interpreting.

However, certain aspects can be regarded as essential when reflecting on the way in which interpreters constitute and use LSP knowledge (a process which is qualified as ‘terminology work’ following the example of written translation): They come from terminology, written translation and interpreting.

2.1 Terminology

In his ground-breaking work (1931/1970 & 1979), Eugen Wüster formulates the basis for a systematic description of terminologies. His model is centred around the concept of the ‘term’ which he describes as a dual entity, consisting of a word form (denomination) and a content (concept) or meaning. The meaning of a term depends on its definition and the relation a term has with other terms within a concept system. As Wüster’s main goal is to ensure an unequivocal technical communication, he calls for strict standardization: Terms are deemed to have only one specific (ideally standardized) meaning (principle of “*Eineindeutigkeit*”/monosemy), and are to be placed into rigidly structured (standardized) concept systems.

However, Wüster’s model takes only normative (system) knowledge into account, ignoring thus their variability in texts, which is essential for Translation. This means that individual LSP knowledge (“jargon”) cannot be captured if it does not correspond to standardized structures; and even in this case, Translators cannot be sure that the result of their terminological work is contained in the target texts – as the underlying concept systems are established at system level, regardless of the fact how and whether they appear in individual texts. This, in return, makes an effective and time saving knowledge acquisition for Translators² almost impossible.

2.2 Written translation

During the 1980ies, this deficit is challenged in its practical aspects as well as on the grounds of theory. While keeping Wüster’s main ideas about the two aspects of a term (denomination and concept) practioners (e. g. Hohnhold 1982, Horn-Helf 1990) insist on the importance of context. The ensuing “respect of the *textual world* of the original” allowed for a tailor made terminological work based on actual term occurrences in individual texts and contributed to the development of many computer based applications as translation memories or detailed terminological entry models within computer aided translation (CAT) tools.

However, it remained unclear how an individual context affects the meaning of a term within a given text and how the meaning of a specific term can be constituted through other texts (e.g. reference books, entries in dictionaries or through topic-related parallel texts) if the original is not sufficiently clear for the (non expert) recipient.

This deficit was reflected by theory, which had also criticised Wüster’s system-based approach (e.g. Schmitt 1986 and Gerzymisch-Arbogast 1987). This led to the development

² ,Translator’ and ,Translation’ with a capitalized ,T’ here is used in the concept of the Leipzig School to include translators AND interpreters.

of a context-specific term model (Gerzymisch-Arbogast 1996) which describes how the concepts of two denominations can be compared to each other – be it at system level (e. g. standardized terms but also entries in dictionaries) or within individual texts (term occurrences as used by their individual authors) and between both levels of description.

However, these results only affected term-specific structures in translation and were not applicable to interpreting.

2.3 Interpreting

Rather than on the above mentioned aspects, most authors concentrate on the specific working conditions of (simultaneous) interpreters and their consequences on their terminology work: As the Translation process cannot be interrupted (as in written translation), it is generally accepted that interpreters have to gather relevant (LSP) information before their conference takes place, but also during and after a specific assignment (see Gile 1995:147, Kalina 2005:257).

While it is generally assumed that interpreters need an overall “thematic” knowledge into which “terminology” is embedded, views on the importance of thematic knowledge and terminological knowledge vary. Some authors want interpreters to be constantly informed in all relevant topics (e.g. Herbert 1952:22, Feldweg 1996:126); other more specific claims ask for a specific meeting preparation based on (systematically organized) reference books (Séleskovitch 1989:87) or suggest (Gile 1996:149, Moser Mercer 1992:507ff) that individual texts (conference papers) are the principal source for meeting preparation, while the result of terminological work is fixed in “glossaries”. Only recently (Rütten 2007) have there been tendencies to also describe detailed structural processes within the organization of terminology work for interpreters, but these efforts have not lead to the development of a specific model nor method for interpreting.

As a consequence, a model and method for the terminological work of interpreters is dependant on four conditions:

- 1) LSP knowledge has to be described in relation to its constituting elements involving term-specific as well as superordinate knowledge structures.
- 2) These entities have to be established at the level of individual texts which are in a direct relation with the conference for which an interpreter is called to work (conference documentation and/or discourse) As these texts are produced by and for specialists, non-expert interpreters have to rely on external textual structures in order to understand them. Therefore, term specific structures within conference texts need to be considered as representations of superordinate entities (knowledge systems) which have to be constituted according to the existing text material and the individual needs of the interpreter.
This has to be achieved in a rational and transparent way in order to make sure that the knowledge structures constituted are relevant.
- 3) Simultaneous interpreters handle texts under very specific conditions. These conditions have to be formulated for a whole assignment and related to the specific constitution and use of the knowledge structures to be described.
- 4) A rule-governed method has to be formulated in order to describe how the relevant knowledge structures are constituted and used for a whole interpreting assignment. Finally, this method has to be validated against the objectives exposed in the problem statement.

3 Theoretical foundations

The theoretical foundations of the present work deal with the 2 aspects presented within the problem statement. As for (1) they consist of 3 models:

- A model describing term specific structures within texts (Gerzymisch-Arbogast 1996),
- A model which integrates single terms into hierarchically organized knowledge systems that constitute the background knowledge necessary to understand the texts to which they relate (Mudersbach 1999) and
- A model which allows for the efficient selection and constitution of relevant knowledge structures for a specific conference (Floros 2003).

All three models are interrelated in so far as knowledge systems “appear” as individual terms in a specific text. In other words: A specific term in an individual text is considered to be an (explicit) element of a knowledge system which still requires structurization. To that effect, other explicit units, but also terms not present in the original text (implicit knowledge entities) are constituted to form a hierarchically organized knowledge system.

The more explicit units (or concretizations) representing a specific knowledge system appear in a given text, the more parts of it are “activated”. Thus, the content and structure of any given knowledge system is determined by a specific source text, the pre-existing knowledge of the recipient and his or her ability to recognize and constitute elements of the knowledge system necessary to understand the original text.

However, this analysis can also be made in relation to more than one knowledge system in a given text. In this case, the number of concretizations of different knowledge systems can be counted and validated in comparison to how many knowledge systems they represent (“quantity”), how easy they can be attributed to a specific knowledge system depending on the degree of explicitness in the text (“quality”) and how many times a knowledge systems is evoked by them (“valence”). As a result, it is possible to judge the specific importance of a given knowledge system for the comprehension of a given text.

However, the constitution of knowledge systems implies a static textual environment as in written translation, were a fixed source text is known in advance and can be analyzed without external constraints. In order to deal with the second aspect of the problem statement, i. e. the specific conditions under which texts are produced and translated in simultaneous interpreting, a model is presented that subdivides a simultaneous assignment into three main stages of knowledge management according to the specific working patterns encountered (Will 2000). These are:

- Preparation of the assignment (Stage I) with conditions comparable to written translation
- The conference itself (Stage II) were a dynamic textual environment is predominant and
- The revision of the assignment (Stage III), which can be compared to Stage I.

As interpretation takes only place during a conference, Stage II is further subdivided into the preparation of a specific interpretation (Stage IIa), the interpretation itself (Stage IIb) and the revision of that interpretation (Stage IIc).

4 Formal problem solution

The formal problem solution is based on the 4 models presented (Gerzymisch-Arbogast 1996, Mudersbach 1999, Floros 2001 and Will 2000): It claims that in the case of LSP texts, the non-expert recipient must first attribute an individual term (Texterm) to a specific knowledge

system. This relationship can be established through comparing an individual term-specific structure in a given term to its systematic meaning as represented by a reference definition (System). Subsequently, the relevant knowledge system is constituted and related to the source text. The result consists in a structured *Terminological Knowledge Entity (TKE)* which assigns Textterms to a specific segment of a hierarchically organized knowledge system. Structured TKEs are considered the smallest complete knowledge unit for understanding and producing technical texts. They consist of:

- 1) An individual term within a conference text (Textterm) as an individual representation (concretization) of a specific knowledge system. It consists of a denomination (e. g. a “word” at the superficial level of a given conference text) and a concept (= “inventory”) comprising the sum of other lexical entities (verbs and nouns) forming its meaning content.
- 2) A corresponding reference term (System), as an “authoritative” concretisation of a specific knowledge system consisting of a denomination (e. g. a lemma within a specialized dictionary) and a concept (definition) which has to be compared to the individual term in order to establish compatibility (‘Systext’ analysis). It can be considered as a “bridge” between an individual term and the underlying knowledge system.
- 3) A knowledge system representing the holistic information about an individual and/or reference term. It consists of functionally interrelated and hierarchically organized holemes and subholemes which form different functional subdivisions to which conceptual contents (Textterms and/or Systemterms) are attributed. Every attached conceptual content is related to the top level of a knowledge system by a graduation of holemes/subholemes. In the following example, for instance, the textterm “v” ist associated to the position 2.1.1 and is related to the top level (0) of the knowledge system (holon) via grade 2.1 and 2.

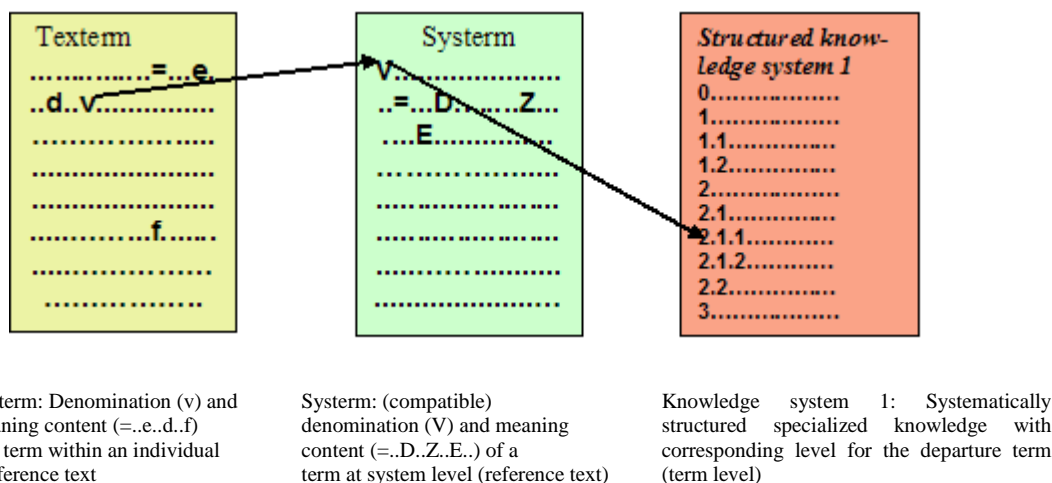


Figure 4.1: Structured TKE

The different elements detailed above can thus be regarded as the different “ingredients” of a dedicated terminological entry model for Translators.

However, TKEs represent only one single aspect of a given knowledge system. In order to gain a complete overview over knowledge structures in texts, these individual entities can be grouped together as clusters. Similar to Floros’ cultural constellations (2002), such complex structures in texts are called Terminological Knowledge Constellations (TKC). They

comprise all concretizations of a given knowledge system within a text or (as in the case of interpreters) a group of texts.

TKCs can either be constituted in order to find out the relevance and the distribution of a specific knowledge system for and within a given a text or group of texts (for instance a specific conference documentation) or in order to describe exactly the explicit and detailed knowledge contained in the text.

In the first case, the focus is on individual terms related to a specific (unstructured) knowledge system. To this regard, *unstructured TKC* are established and are analysed in relation to specific parameters: quantity (how many different knowledge systems they represent), quality (how much external/systematic knowledge is necessary in order to constitute them), and valence (how often a specific knowledge system appears through them in the considered text basis). Moreover - as an additional criterion not reflected by Floros: density (i.e. the number of different explicit functions they represent within a knowledge system). The result of this evaluation and its distribution within the considered texts is counted and then weighted through the attribution of “points”.

As a result, the most important knowledge systems would be those with the highest number of points and should therefore be worked out in a very detailed way, whereas the less important ones could be established in a more “economical” way, allowing for an effective and yet relevant terminological work, e.g. when it comes to the preparation of a conference. This point is of special importance for interpreters as they are confronted with a given original only during the interpreting process (stage IIb). Therefore, a transparent way of constituting relevant knowledge prior to the interpreting stage is decisive in delivering an adequate end product.

In the second case, the focus is on individual terms related to specific holemes/subholemes of structured knowledge systems. To this regard, *structured TKC* are formed. They represent the explicit holistic term-specific knowledge represented in a given text base:

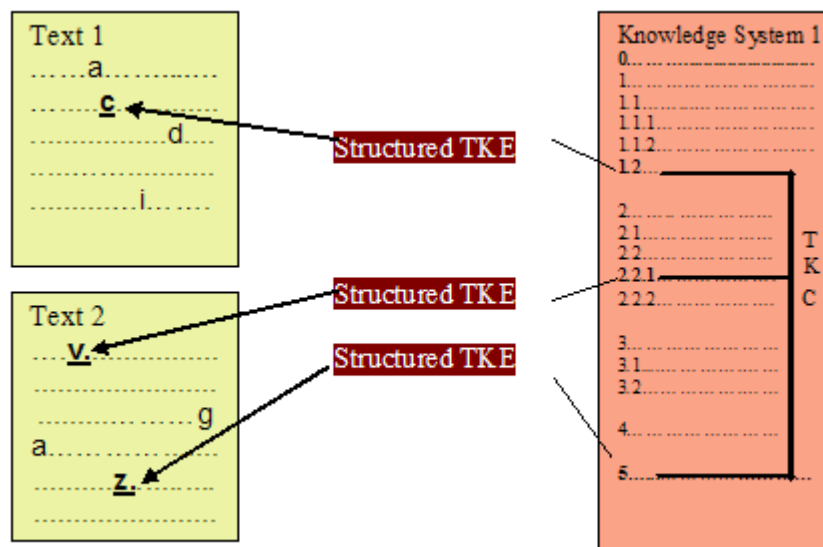


Figure 4.2: Structured TKE &TKC (related structures). **Bold letters**: Terms with fully constituted meaning

The bridge to simultaneous interpreting is provided by describing the aim and content of the different stages of knowledge management presented in the theoretical foundations:

Conference preparation (Stage I) is associated with a systematic and holistic knowledge acquisition geared towards the anticipated needs of the ensuing conference phase. As a result,

knowledge systems are constituted and specifically differentiated according to their relative weight (unstructured TKC) and then related back to the underlying texts (structured TKE grouped together as structured TKC). As these operations are demanding as far as time and material resources (availability of reference material etc.) are concerned, they can only be performed outside the conference stage.

During the conference stage (Stage II), the constituted knowledge is recalled and previously unidentified knowledge newly constituted (Stage IIa). This happens under worsening working conditions that deteriorate with the approaching interpretation. During the interpreting process (Stage IIb), knowledge can only be retrieved. The retrieval is based on a semasiological correspondence between occurring textterms and previously constituted TKEs which are selected according to the correspondence with the holistic structures in the source text. It is assumed that the more elements of the inventory of the occurring textterm correspond to the holistic structure (holeme organization) of a retrieved TKE in the entry model, the bigger the possible match is – for instance in the case of several corresponding semasiological entries.

During Stage II, new structures can only be constituted outside of the interpretation Stage IIb (i.e. in Stage IIa & IIc) and only on the level of individual terms (TKEs).

During the conference revision (Stage III), the individual (and sometimes partial) TKEs assembled during the conference stage are completed and integrated into holistic structures which are now constituted in the same way and under the same conditions as during Stage I. This knowledge can be summarized through structured TKC that – taken together - constitute the individual explicit knowledge for the past conference.

The overall solution to the problem statement can therefore be understood as the strategic, stage-wise constitution and application of *Terminological Knowledge Entities and Terminological Knowledge Constellations* according to the different constraints/aims of knowledge management within an interpreting assignment.

5 Theoretical method

In an additional step, the model is put into practice following a methodological sequence. It comprises ten steps consisting each of a specific starting point and an aim, an action to be performed in order to achieve the specified aim and the result of it, the result of each step being the starting point for the next.

The steps are structured according to the three stages of knowledge management within an interpreting assignment, which, in turn, are subdivided into the three phases of Translation³: reception, transfer and production. They are geared towards ensuring an optimum result in view of the formulated aims, especially in view of an adequate interpretation. The general content of the steps is the following:

- 1) During step one a specific textterm denomination is identified in a text and either marked in a document or memorized in relation to discourse.
- 2) In step two, the concept of the denomination is identified. This marks the end of the term specific terminology work during reception.
- 3) In step three, the textterm is related to a hypothetical knowledge system (holistic interpretation) to form a TKE
- 4) In step four, all TKEs are pulled together into unstructured TKC. They are analyzed in relationship to the above mentioned parameters ‘quantity’, ‘quality’, ‘density’ and ‘valence’. In order not to distort the results, the distribution of the different factors within the considered text base is also taken into consideration. As a result, the related

³ See Nida/Taber 1969

knowledge systems can be weighted according to their importance for the underlying texts.

- 5) In step five, the knowledge systems are constituted with the appropriate reference material. The higher one system has been weighed, the ‘deeper’ it has to be differentiated.
- 6) In step six, the different holemes and subholemes are referred back to the corresponding textterms in order to put them into a holistic framework and thus to “understand” them. This constitutes the end of the reception phase.
- 7) Step seven marks the beginning of the transfer phase: therefore a corresponding knowledge system in the target language is constituted along the same principles as in the source language.
- 8) In step eight, the different holemes and subholemes of both knowledge systems are compared with respect to their conceptual and functional content.
- 9) In step nine, adaptations have to be made in the target language in case of differences or even lexical gaps between the two languages. This marks the end of the transfer phase.
- 10) Step ten as the last step of the method, realizes the interpreting process itself (stage IIb) and represents the reproduction stage.

6 Verification of the method

The methodological sequence outlined above is checked against the results they claim to achieve. This is shown on the basis of authentic conference texts which are part of a specific corpus (Pöchhacker 1992)⁴ that was put together in relation with a conference on small and medium-sized businesses which took place in Vienna in 1991⁵.

For this purpose, 5 conference texts were chosen: 3 for the verification of Stage I (Conference preparation), 1 for Stage IIa (preparation of an interpretation) and 1 for Stage IIb (interpretation). Stage IIc (revision of the interpretation) is based on the same text as IIb while Stage III (conference revision) covers all 5 texts.

The 10-step sequence is then carried out according to the specifications of each stage.

7 Summary and perspectives for further research

The research project ends with an evaluation of the achieved results and suggests desiderata for further investigation and topics.

These are related to the further use of TKC for the characterization of LSP texts (with respect to different customers), to the use of the PC and to the development of adequate software as well as to implications for didactics.

⁴ This corpus is described in detail in Pöchhacker (1994)

⁵ The texts for the conference preparation (Stage I) are unpublished but were kindly provided by Franz Pöchhacker.

8 Basic literature

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