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Translation as communication: ontologies for supporting the process of translation

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In the last decade (1985-1995) the view of translation research has changed from globally valid translation and interpretation theories to differentiating possible aspects of translation theories and to a strongly interdisciplinary orientation. The trend of new methods and methodologies is nowadays based on a combination of the science of language and speech, information sciences and communication sciences. This trend can also be seen as a response to the ongoing establishment of the global information society and the necessary national and international information infrastructure, where language and speech are the appropriate means for providing and receiving different kinds of information in various languages based on different cultural systems.

Whereas the traditional schools of translation do not yet provide formal methods or methodologies although they focus on factors of the macro structure of the text to be translated and the micro-structural decisions to be taken when translating the text, as well as computational tools to support this process, we will propose an approach that permits the modeling of micro- and macro-structures in a sound and coherent manner thereby supporting human translation, machine-assisted translation and machine translation.

Initially this approach grew out of work carried out in the field of multi-lingual documentation and on-line information services of the automotive industry. Within this application scenario the focus is on the development of methods and techniques based on state-of-the-art client/server technology. The idea was to have not a monolithic system but an architecture consisting of several software agents with different skills contributing to the goal of supporting multi-lingual documentation and retrieval of information and with the ability to communicate to each other in a network-based environment.

Our approach is based on domain ontologies representing cultural systems under various aspects and communicating intelligent software agents that exchange information about the text to be translated and the translation processes. These ontologies contain, on the one hand, information related to the micro-structure of a text which is concerned with knowledge about text-specific meaning, reference and isotopy, theme-rheme and change of register, and, on the other hand, information associated with the macro-structure of a text which deals with knowledge about text type, coherence, cultural specificity and equivalence. This approach has been applied successfully in the field of technical translation of service information of the automotive industry where we derived the necessary knowledge elements from the technical terminology of the domain.