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The Integration of Digital Humanities into the Sociology of Knowledge Approach to Discourse Analysis

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Abstract : Discourse analysis research approaches belong to the central research strategies applied throughout the humanities; they focus on the countless forms and ways digital texts and images shape present-day notions of the world. Despite the constantly growing number of relevant digital, multimodal discourse resources, digital humanities (DH) methods are thus far not systematically developed and accessible for discourse analysis approaches. Specifically, the significance of multimodality and meaning plurality modelling are yet to be sufficiently addressed. In order to address this research gap, the D-WISE project aims to develop a prototypical working environment as digital support for the sociology of knowledge approach to discourse analysis and new IT-analysis approaches for the use of context-oriented embedding representations. Playing an essential role throughout our research endeavor is the constant optimization of hermeneutical methodology in the use of (semi)automated processes and their corresponding epistemological reflection. Among the discourse analyses, the sociology of knowledge approach to discourse analysis is characterised by the reconstructive and accompanying research into the formation of knowledge systems in social negotiation processes. The approach analyses how dominant understandings of a phenomenon develop, i.e., the way they are expressed and consolidated by various actors in specific arenas of discourse until a specific understanding of the phenomenon and its socially accepted structure are established. This article presents insights and initial findings from D-WISE, a joint research project running since 2021 between the Institute of Anthropological Studies in Culture and History and the Language Technology Group of the Department of Informatics at the University of Hamburg. As an interdisciplinary team, we develop central innovations with regard to the availability of relevant DH applications by building up a uniform working environment, which supports the procedure of the sociology of knowledge approach to discourse analysis within open corpora and heterogeneous, multimodal data sources for researchers in the humanities. We are hereby expanding the existing range of DH methods by developing contextualized embeddings for improved modelling of the plurality of meaning and the integrated processing of multimodal data. The alignment of this methodological and technical innovation is based on the epistemological working methods according to grounded theory as a hermeneutic methodology. In order to systematically relate, compare, and reflect the approaches of structural-IT and hermeneutic-interpretative analysis, the discourse analysis is carried out both manually and digitally. Using the example of current discourses on digitization in the healthcare sector and the associated issues regarding data protection, we have manually built an initial data corpus of which the relevant actors and discourse positions are analysed in conventional qualitative discourse analysis. At the same time, we are building an extensive digital corpus on the same topic based on the use and further development of entity-centered research tools such as topic crawlers and automated newsreaders. In addition to the text material, this consists of multimodal sources such as images, video sequences, and apps. In a blended reading process, the data material is filtered, annotated, and finally coded with the help of NLP tools such as dependency parsing, named entity recognition, co-reference resolution, entity linking, sentiment analysis, and other project-specific tools that are being adapted and developed. The coding process is carried out (semi-)automated by programs that propose coding paradigms based on the calculated entities and their relationships. Simultaneously, these can be specifically trained by manual coding in a closed reading process and specified according to the content issues. Overall, this approach enables purely qualitative, fully automated, and semi-automated analyses to be compared and reflected upon.

Keywords : entanglement of structural IT and hermeneutic-interpretative analysis, multimodality, plurality of meaning, sociology of knowledge approach to discourse analysis

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