

## **Intermodal cohesion and coherence in multisemiotic text**

A vast number of texts are actually comprised of multiple modalities beyond natural language, such as e.g. images, figures, virtual 2D and 3D models and formulae. These semiotic resources jointly encode and construe meaning by interacting and making direct or indirect reference to one another in complex and intricate ways in a process termed multimodal semiosis (cf. O'Halloran 2004). From the observation of the predominantly multisemiotic nature of a large proportion of communication arise a number of questions concerning (a) the content and internal organisation of the individual modalities involved, and (b) the mechanisms of interaction between different modalities within a multimodal text which contribute to its multiple dimensions of meaning. The focus of this paper is on the latter type of issue.

This paper presents research towards modelling multimodal text with a focus on the relations obtaining between different modalities and their contribution to the overall cohesion and coherence within the text. The hypothesis underlying this paper is that all modalities, not just natural language are involved in establishing relations of cohesion and, ultimately, coherence within a text. But whereas linguistics provides well-established frameworks to account for cohesion and coherence in natural language (cf. e.g. Halliday, Hasan 1976; Mann, Thompson 1987; Martin 1992), similar sophisticated frameworks are lacking for the description of coherence and cohesion including other, non-linguistic modalities.

The research presented is based on a multimodal corpus of scientific texts mostly from the domains of computer science, mechanical and electrical engineering, and biology. The study investigates the joint contribution of different symbolic, visual and virtual semiotic resources to the content and information structure of texts in terms of cohesive relations and coherence.

Drawing on Systemic Functional Linguistics (Halliday 2004) and Multimodal Discourse Analysis (O'Halloran 2004) as its theoretical background, this paper presents work towards a model of the interaction between different modalities. The paper presents the theoretical foundations for an empirically based model of intermodal relations and introduces the XML-based encoding and annotation of a multimodal corpus.

### References:

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