Semantics from Narrative: State of the Art and Future Prospects

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Abstract:
We study two aspects of information semantics:
(i) the collection of all relationships,
(ii) tracking and spotting anomaly and change.

The first is implemented by endowing all relevant information spaces with a Euclidean metric in a common projected space.
The second is modelled by an induced ultrametric.

A very general way to achieve a Euclidean embedding of different information spaces based on cross-tabulation counts (and from other input data formats) is provided by Correspondence Analysis. From there, the induced ultrametric that we are particularly interested in takes a sequential - e.g. temporal - ordering of the data into account. We employ such a perspective to look at narrative, "the flow of thought and the flow of language" (Chafe).
Following a review of approaches adopted in the analysis of filmscript we look at how similar approaches can be applied to the scholarly literature.
We selected a number of articles from the one theme area in order to study the structure of narrative and to seek particularly interesting semantic elements. The articles selected deal with neuro-imaging studies of visual awareness or other cognitive alternatives in early blind humans, all from the journal, NeuroImage.

Keywords:
Correspondence Analysis, hierarchical clustering, contiguity-constrained clustering, semantics, anomaly, visualization, display, research mapping, decision support, narrative, text