

Towards an unified discourse representation approach

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with contributions from:

Alexandre Passant, Tim Clark, Simon Buckingham Shum, Anita de Waard and Siegfried Handschuh

Scientific Discourse TF

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Preliminary analysis: SWASD Workshop @ ISWC 2009

- ❑ **Coarse-grained rhetorical structure**
- ❑ **Fine-grained rhetorical structure**
- ❑ **Relations** – types of relations used
- ❑ **Polarity** – explicit positive vs. negative
- ❑ **Weights** – explicit numeric weight of relations
- ❑ **Shallow metadata support**
- ❑ **Domain knowledge**
- ❑ **Purpose** – intended use of the model
- ❑ **Evaluation and uptake**
- ❑ ...

Models

- Harmsze's model
- The Scholarly Ontologies project
- De Waard's model
- The SWAN Ontology
- The SALT Framework

A possible direction ...

- **Proper balance of currently existing features**
- **Emphasis on practicality for uptake maximization**
- **General structure**
 - Layered – e.g. SWAN, SALT
- **Coarse-grained structure**
 - Rhetorical blocks – e.g. ABCDE, SALT, Teufel's zones
- **Fine-grained structure**
 - Discourse elements
- **Relations**
 - 2 layers
 - Argumentative + cognitive coherent
 - Rhetorical relations

Abstract layering

 **Particle Tracking Velocimetry: A Feasibility Study**

Mathias Kinnel, Markus Holzer, Beat Lüthi, Alexander Liberman, Cameron Tropen, and Wolfgang Kinoshita

Abstract. In preparation of simultaneous large-scale / small-scale 3D Particle Tracking Velocimetry (3D-PTV) experiments in a developing turbulent flow we performed two types of measurements separately: (i) the velocity and coarse-grained velocity derivatives were measured in a large observation volume with focus on the large-scale flow features and (ii) spatially resolved velocity derivatives were measured in a small observation volume with the goal to obtain small-scale quantities associated with vorticity and strain. In this contribution we demonstrate that the characteristic flow structures were captured and velocity derivatives were accessed with sufficient accuracy. The problem of measuring velocity derivatives both in the Lagrangian and Eulerian frame of reference is also addressed. Although comparable accuracies in both settings could be achieved with our method, only statistics obtained from the spatially resolved measurement were found to be practically the same in both settings.

1 Introduction

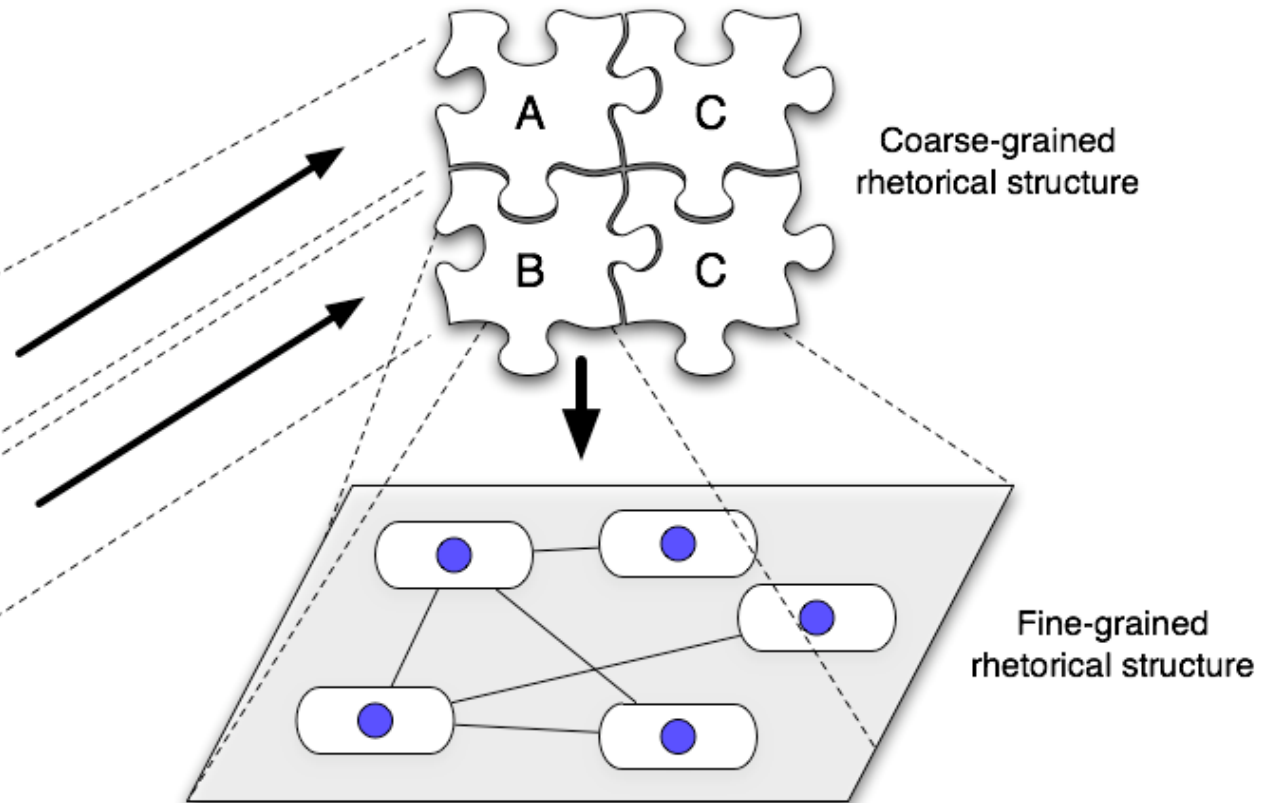
Turbulent flows are intrinsically three-dimensional and characterized by a wide spectrum of scales, with eddy sizes ranging from the largest size, the integral scale L , down to the dissipative scale, the Kolmogorov length scale η . The Reynolds number

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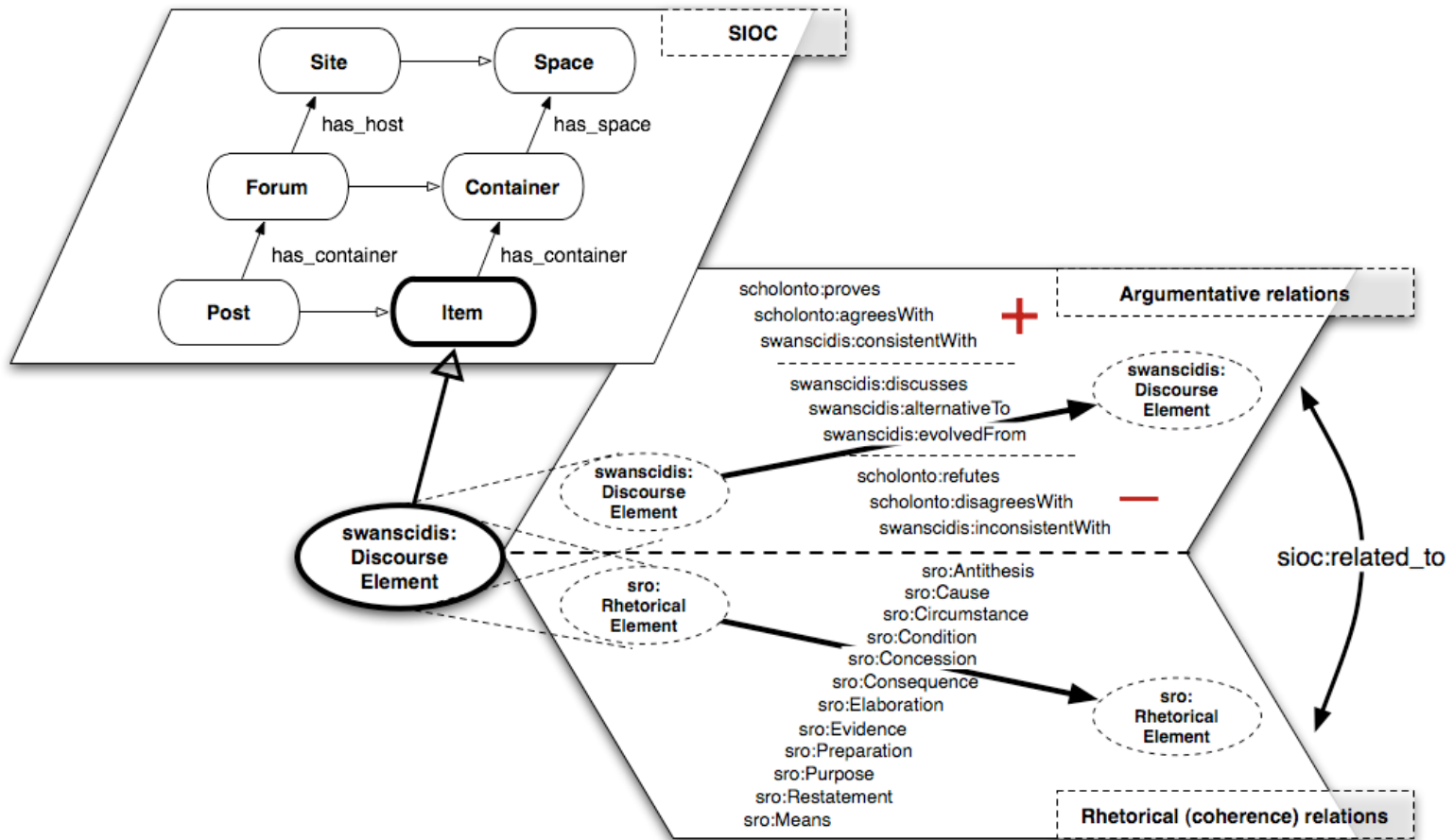
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Concrete (Web-based) layering



Thank you!