# Discourse Relations and Discourse Markers

## Proceedings of the Workshop

Sponsored by The Association for Computational Linguistics

> Edited by Manfred Stede Leo Wanner Eduard Hovy

15th August 1998 Université de Montréal Montreal, Quebec, Canada

## COLING-ACL'98

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## Preface

There is widespread agreement that the coherence of discourse can be characterized by certain *discourse relations* that can hold between adjacent spans of text. Different linguistic disciplines approach the definition and interpretation of such discourse relations in different ways, though. Text linguists, for instance, favour a "top down" approach in that they investigate the global role of relations holding between text spans (sometimes called 'rhetorical relations'), as an instrument of creating coherence. Grammarians, on the other hand, favour a "bottom up" approach: they intend to describe the grammatical role, e.g., of conjunctions, and to that end propose inventories of semantic relations signalled by these conjunctions. As a result of these complementary approaches, the level of description on which discourse relations hold and the particular inventories of discourse relations are somewhat heterogeneous.

One way of approaching the abstract problem of discourse relations on a relatively safe ground is to focus on the surface, investigating the linguistic means by which discourse relations can be recognized. The most important instruments are cue words specifically employed to signal the particular relationship between text spans. These are often called *discourse markers*—though the term is quite ambiguous. Besides their function to make discourse relations explicit in all forms of discourse, in spoken language they may also provide specific meta-information about the utterance or the interpersonal relationship between dialogue participants. In a wider sense, this function can be interpreted as providing coherence within a dialogue, and therefore the different functions of these markers are quite related.

With the increasing capabilities of natural language processing beyond the sentence level, the problem of discourse structure interpretation, generation, and translation is becoming more acute. It is therefore not surprising that the number of researchers working in this field has increased rapidly over the past few years—a fact that is also reflected in the number of submissions to this workshop.

The workshop addresses the topic of discourse coherence from different angles. The papers presented can be divided into five broad categories: (i) automatic identification of discourse structure relations in discourse (discourse structure parsing); (ii) recognition and generation of cue words that function as discourse markers; (iii) interrelationship between discourse structure relations and the other linguistic strata, grammar and semantics; (iv) analysis and formal representation of both specific discourse structure relations and specific cue words; (v) cue words functioning as discourse markers in speech and dialogue.

We hope that the workshop will provide a forum for stimulating discussions, and that it will generate progress on the issues of discourse coherence and its linguistic signals. Thanks are due to the authors of the papers, who supplied a very good basis for shaping a balanced program. Also, we wish to thank the members of the Program Committee for their valuable help.

Manfred Stede Leo Wanner Eduard Hovy

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## Program

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### Session 1: Discourse Structure Parsing Uses

Introduction

- 9:10-9:30 Daniel Marcu (USC/ISI) A Surface-based Approach to Identifying Discourse Markers and Elementary Textual Units in Unrestricted Texts
- 9:30-9:50 Simon H. Corston-Oliver (Microsoft Research) Identifying the Linguistic Correlates of Rhetorical Relations
- 9:50-10:10 Jill Burstein, Karen Kukich, Susanne Wolff, Chi Lu and Martin Chodorow (Educational Testing Service and Hunter College) Enriching Automated Essay Scoring using Discourse Marking
- 10:10–10:25 Discussion

#### Coffee Break

#### Session 2: Cue Words

10:45 Introduction

- 10:50-11:10 Brigitte Grote (Otto-von-Guericke Universität, Magdeburg) Representing Temporal Discourse Markers for Generation Purposes
- 11:10-11:30 Liesbeth Degand (University of Louvain) On Classifying Connectives and Coherence Relations
- 11:30-11:50 Claudia Soria and Giacomo Ferrari (University of Pisa and University of East Piemonte) Lexical Marking of Discourse Relations — Some Experimental Findings
- 11:50-12:10 Simone Teufel (University of Edinburgh) Meta-Discourse Markers and Problem-Structuring in Scientific Texts
- 12:10-12:25 Discussion

Lunch

#### 13:00–14:00 Poster session

Laurence Danlos (Université Paris 7) Linguistic Ways for Expressing a Discourse Relation in a Lexicalized Text Generation System

Alistair Knott (University of Edinburgh) Similarity and Contrast Relations and Inductive Rules

Frank Schilder (Universität Hamburg) Temporal Discourse Markers and the Flow of Events

Nigel Ward (University of Tokyo) Some Exotic Discourse Markers of Spoken Dialogue

Session 3: Grammar, Semantics, and Formalisms

14:00 Introduction

- 14:05-14:25 Kathleen Dahlgren (Inquizit Technologies, Inc.) Lexical Marking and the Recovery of Discourse Structure
- 14:25-14:45 Jacques Jayez and Corinne Rossari (EHESS and Université de Genève) Discourse Relations versus Discourse Marker Relations
- 14:45-15:05 Marie-Paule Péry-Woodley (Université de Toulouse) Textual Signalling in Written Text: a Corpus-based Approach
- 15:05–15:25 Bonnie Lynn Webber and Aravind Joshi (University of Pennsylvania) Anchoring a Lexicalized Tree-Adjoining Grammar for Discourse
- 15:25-15:40 Discussion

Coffee Break

#### Session 4: Speech and Dialogue

- 16:05 Introduction
- 16:10-16:30 Masahito Kawamori, Takeshi Kawabata and Akira Shimazu (NTT Research and JAIST) Discourse Markers in Spontaneous Dialogue: a Corpus Based Study of Japanese and English
- 16:30–16:50 Yukiko I. Nakano and Tsuneaki Kato (NTT Labs) Cue Phrase Selection in Instruction Dialogue using Machine Learning
- 16:50-17:10 Kerstin Fischer and Hans Brandt-Pook (Universität Bielefeld) Automatic Disambiguation of Discourse Particles
- 17:10-17:30 Daniel Jurafsky, Elizabeth Shriberg, Barbara Fox and Traci Curl (University of Colorado and SRI) Lexical, Prosodic, and Syntactic Cues for Dialog Acts
- 17:30-18:00 Discussion

18:00 Closing

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