

Socio-Linguistic Analysis

Who has social capital? Who is being critical? Who is the leader?

Argumentation = Language Use

Speaker	Language Use / Language Use Constituent
A	ESTABLISH SOLIDARITY (DISCLOSE BELIEFS)
B	DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)
A	DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)
B	4 x DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)
A	AGREEMENT (EXPLICIT LANGUAGE OF AGREEING)
B	DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)
A	DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)
B	CHALLENGE CREDIBILITY (BAIT AND SWITCH)
B	2 x DISAGREEMENT (EXPLICIT LANGUAGE OF DISAGREEING)

Argumentation Analysis

Hypothesis₁

Reason₁

Reason₂

Evidence₁

Evidence₂

Evidence₃

Structure of Argument₁

Argumentation = Verbal Activity

Argumentation = Rational Activity

Textual Entailment

The Approach.

- Extracting discourse commitments
- Expanding the available set of commitments
- Selecting the right set of commitments
- Estimating the likelihood of entailment
- Validating an entailment decision

Hickl, A., & Bensey, J. (2007, June). A discourse commitment-based framework for recognizing textual entailment. In Proceedings of the ACL-PASCAL Workshop on Textual Entailment and Paraphrasing (pp. 171-176). ACL

Finding Social Commitments

Motif of social acts extracted from discourse

Motifs where individual is pursuing power

Social Normative Motifs

Argumentation = Social Activity

Bracewell, D. B., Tomlinson, M., & Wang, H. (2012, September). A motif approach for identifying pursuits of power in social discourse. In Semantic Computing (CSC), 2012 IEEE Sixth International Conference on (pp. 1-8). IEEE.

Social Argument Analysis

Elicitation

Aggregation

Argumentation = Discourse Activity

Speech Acts & Argumentation

Distribution of Speech Acts in a Critical Discourse

Automatic Speech Act Recognition

Emergence of Gricean Implicatures

Speech Act	Description
I Assertive	Expressing a standpoint
II Directive	Challenging to defend a standpoint
III Directive	Requesting argumentation
IV Commissive	Acceptance or non-acceptance of a standpoint

Van Eemeren, F. H., & Grootendorst, R. (2004). A systematic theory of argumentation: The pragma-dialectical approach (Vol. 14). Cambridge University Press.

Social Conversational Entailment

Establish Solidarity

Disagreement

Disagreement

Agreement

Challenge Credibility

Disagreement

Disagreement

- CI Group Affordance
- <gap>
- CI Establish Solidarity
- <gap>
- G Group Affordance

- CI Challenge Credibility
- <gap>
- CI Disagreement
- <gap>
- CI Relationship Conflict

Bracewell, D. B., & Tomlinson, M. T. (2013). In you we follow: determining the group leader in dialogue. In Social Computing, Behavioral-Cultural Modeling and Prediction (pp. 240-248). Springer Berlin Heidelberg.

Modality, Genericity, and Polarity

Modality Class	Modality Subclass	Example
Epistemic	Judgment	I think they will attack.
	Evidential	I've heard they will attack.
	Volitive	I hope they attack.
Deontic	Volitive	I fear they will attack.
	Commissive	I plan to attack.
	Commissive	I threatened to attack.
Hypothetical	Directive	You should attack.
	Directive	You must attack.
	Hypothetical	If they attack, I will defend.

Specific	Prices rose 0.3% last week
Generic	Prices rise as a result of monetary pressure.
Negation	Prices didn't rise this week.

Monahan, S., & Brunson, M. (2014). Qualities of Eventiveness. ACL 2014, 59.

Collective Rules for Critical Frames

Rule 14

Rule 1

Rule 5

Rule 2

Rule 4

Rule 3

Van Eemeren, F. H., & Grootendorst, R. (2004). A systematic theory of argumentation: The pragma-dialectical approach (Vol. 14). Cambridge University Press.

Crowd Sourcing

Wisdom of the crowd

Qualities of Eventiveness

Social Role Identification

Metaphor Identification

Concept Recognition

Sentiment Analysis

Curated Experts

Social Act Identification

Social Role Identification

Event Properties

Monahan, S., & Brunson, M. (2014). Qualities of Eventiveness. ACL 2014, 59.

Bracewell, D. B., Tomlinson, M. T., Brunson, M., Plymale, J., & Bracewell, J. (2012, July). Annotation of adversarial and collegial social actions in discourse. In Proceedings of the Sixth Linguistic Annotation Workshop (pp. 184-192). Association for Computational Linguistics.

About Language Computer

- "Boutique" provider of next-generation natural language processing software solutions for Government and commercial customers
- Strong track record: top marks at more than 20 different Government evaluations since 1999
- Question Answering (TREC, 1999-2008 & IARPA AQUAINT Program)
- Information Extraction (ACE, 2005-2006)
- Knowledge Base Population (TAC, 2011-2014)
- Social Role Identification (IARPA SCIL Program)
- Summarization (DUC, 2003-2008)
- Textual Inference (RTE, 2006-2008)
- Metaphor Processing (IARPA Metaphor Program)

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