Structure Beyond the Sentence!
Introduction to Theories of Discourse Structure

Introductory Essay

How is language above the level of a single sentence, i.e. discourse, structured? Intuitively, we know that a sequence of sentences in a coherent discourse is not random. To demonstrate, simply imagine jumbling the sentences of any text and you'll quickly realize how incoherent the lack of organization is. But what is the structure of a well-formed, coherent discourse? And if the discourse is incoherent, how can we account for why?

The goal of this course is to explore the structure of discourse by surveying prominent theories that have sought to explain questions about discourse structure like these. These theories of discourse come from a broad range of disciplines, including linguistics, philosophy, psychology and artificial intelligence. While linguistics as a discipline has focused on many topics, including the structure of sounds (phonology) and sentences (syntax), attention has less often moved to the structure of language above the level of a single sentence. This course will focus attention on this level of linguistic organization as its own independent topic of analysis. By the end of the course, students are expected to be able to identify the similarities and differences between each theory. This includes identifying the different assumptions each theory makes, the phenomena it is used to explain, and the data each is used to describe (dialogue/monologue, natural/constructed examples, different sized discourses). Finally, students will need to be able to evaluate the theories, potentially involving developing one's own criteria for evaluation. The course itself will be a seminar, largely built around in-class discussion of readings, response essays, analysis of discourse data, and a final project or paper.

Discourse is a multiply polysemous term, used vastly differently by different disciplines and scholars. What Foucault means by discourse, for example, is more about social theory than linguistic organization. The theories discussed in this course make linguistic organization above the level of the single sentence the core interest. Even in research on language that invokes the term discourse, it is often used to refer to topics like reference/anaphora or information structure (the given/new contrast). In contrast to these approaches, this course will review theories of the structure of language beyond the sentence, often called the coherence structure of discourse.

Theories that focus on linguistic structure beyond the sentence come from a variety of disciplines, including linguistics (Rhetorical Structure Theory), philosophy (Segmented Discourse Representation Theory), and artificial intelligence (Grosz & Sidner). As such, the course will be intensely interdisciplinary, and students from any discipline interested in the structure of discourse are encouraged to enroll. This also means there may be variability in the level of experience with material from student to student and week to week. Because of this diversity, it will be important to draw on each other's expertise, teaching each other where necessary, and acknowledging we may not be experts in every area.

This course is designed primarily as a graduate level seminar, with the opportunity for motivated upper-level undergraduates to enroll as well. Because of its interdisciplinary nature, it is expected to be cross-listed with other departments, e.g. philosophy, psychology, computer science or anthropology. Within linguistics, it could serve as an upper-level semantics course or as an elective. It will not be constructed explicitly as an extension to an

introductory course on compositional semantics, but it could inform such work and at places may make reference to semantic theories or concepts (e.g. scope, binding). For example, in linguistics, Kehler (2002) and his colleagues have exploited discourse structure to help explain difficult semantic phenomena like VP-ellipsis and pronoun anaphora. From philosophy, Asher & Lascarides (2003) propose a theory of discourse at the semantics-pragmatics interface that models the integration of real-world and linguistic knowledge in the construction of representations of coherent discourse, drawing on long-standing debates about reference, truth, and other phenomena in the philosophical literature. And in psycholinguistics, discourse structure can contribute to research on language processing; for example, Rohde and colleagues have used coherence relations contrasting in implicit causality to explain syntactic attachment ambiguities (Rohde et al. 2011). This course's systematic analysis of approaches to discourse could similarly shine light on potentially intractable problems in other areas of research students may be interested in.

Assessment of student learning will involve regular response essays, leading discussion one day, individual conferences with the professor, an analysis of a sample discourse, and a final project that engages the material in a novel way. The response essays are designed as a kind of formative assessment, where the regular processing of information should clarify principles of a theory, making connections between theories, and generally brainstorming. These response essays will be an opportunity for students to generate ideas that could eventually serve as the basis for the final project.

Structure Beyond the Sentence!
Introduction to Theories of Discourse Structure

Instructor: Joseph Tyler
MONTH YEAR; **Section X**
Days, Times, ROOM Y BUILDING Z

Office hours: XX (and by appointment)
Email:

Course Description:
  How is language above the level of a single sentence, i.e. discourse, structured? Intuitively, we know that a sequence of sentences in a coherent discourse is not random. To demonstrate, simply imagine jumbling the sentences of any text and you'll quickly realize how incoherent the lack of organization is. But what is the structure of a well-formed, coherent discourse? And if the discourse is incoherent, how can we account for why?
  The goal of this course is to explore the structure of discourse by surveying prominent theories that have sought to explain questions about discourse structure like these. These theories of discourse come from a broad range of disciplines, including linguistics, philosophy, psychology and artificial intelligence. By the end of the course, students are expected to be able to identify the similarities and differences between each theory. This includes identifying the different assumptions each theory makes, the phenomena it is used to explain, and the data each is used to describe (dialogue/monologue, natural/constructed examples, different sized discourses). Finally, students will need to be able to evaluate the theories, potentially involving developing one's own criteria for evaluation. The course itself will be a seminar, largely built around in-class discussion of readings, response essays, analysis of discourse data, and a final project or paper.

Pre-requisites: Graduate standing (or approval from instructor), and at least one linguistics course. Some experience with semantics preferred.

Readings

 Books:
Asher, N., & Lascarides, A. (2003). _Logics of Conversation_. xxii+526pp, Cambridge, UK: Cambridge U Press. (from Philosophy)
Kehler, A. (2002). _Coherence, Reference, and the Theory of Grammar_. Stanford, California: Center for the Study of Language and Information. (from Linguistics)
Wolf, F., & Gibson, E. (2005). Representing Discourse Coherence: A Corpus-Based Study. _Computational Linguistics, 31_(2), 249-287. (from Psychology)

All other readings will be posted on and downloadable from the course website, including:
Grosz, B., & Sidner, C. (1986). Attention, Intentions, and the Structure of Discourse. _Computational Linguistics, 12_(3), 175-204. (from Artificial Intelligence)

Mann, W. C., & Thompson, S. A. (1988). Rhetorical Structure Theory: Toward a Functional Theory of Text Organization. *Text, 8*(3), 243-281. (from Linguistics)

Expectations: You are expected to attend all class meetings and actively participate. Participation will be determined by active listening in class, speaking, participation in class activities, coming to office hours, and participating in online discussions. Computers and other electronics are allowed in class when they are used for the class. Using them for other purposes is distracting for other students and is not allowed.

If you have any specific needs that need to be met in order for you to participate fully in the course, please let me know about them by the end of the second week of classes. Also, if a class or due date conflicts with a religious holiday, please notify me ahead of time so we can make alternative arrangements.

I am available to answer brief questions via email, but allow a minimum of 24 hours for a response. By "brief" I mean questions that can be answered in under 3 minutes. When e-mailing, provide a subject line that makes it as clear as possible what you are e-mailing about. If you would like to discuss longer or more complicated issues, please come to my office hours or make an appointment.

You will turn in assignments on the course's website. They are due on time by the beginning of class the day they are due.

Late Work
Turning in assignments late disrupts the work of the group and hampers your individual progress. Every day after the assignment is due, your grade will decrease 10%. After one week has passed, assignments will no longer be accepted. Unusual circumstances and emergencies must be discussed with me in the privacy of my office.

Classroom Etiquette: It is important to have a setting where everyone feels comfortable sharing and participating. If there is something you think is upsetting the classroom environment or getting in your way of participating, please come talk to me and we can try to find a way to remedy the situation.

Plagiarism
The University of Michigan defines plagiarism as "Submitting a piece of work (for example, an essay, research paper, work of art, assignment, laboratory report) which in part or in whole is not entirely the student's own work without attributing those same portions to their correct source." Plagiarism is when you knowingly (or unknowingly) submit someone else's ideas or words as your own.

If you commit an act of academic dishonesty in this course by either plagiarizing someone's work or allowing your own work to be misused by another, you will fail the assignment and possibly the entire course. In addition, I will report the incident to both the English Department and the LS&A academic dean. Please also note that if you submit work already

completed for one course as original work for another course, you are violating university policies and will fail the assignment and possibly the course.
http://www.lsa.umich.edu/english/undergraduate/advising/plagNote.asp

Requirements

Participation: 10%
Response papers and comments on others' response papers: 30% (weekly)
Sample analysis paper: 10% (analyze a discourse in the context of one or more theory)
Compare/contrast paper: 10% (comparing at least two theories)
Final project: 40%

All work must be typed in a normal, 12pt font, be double-spaced and have normal margins. Assignments should be proofread (including, but not limited to spell-checking).

Letter grade scale:
93-100: A
90-92: A-
87-89: B+
83-86: B
80-82: B-
77-79: C+
73-76: C
70-72: C-
67-69: D+
63-66: D
60-62: D-
Below 60: E

Schedule

Due dates

Week 4: Email instructor idea for final project/paper
Week 7: Comparison of two theories assignment due
Week 8: One page write-up of final project/paper idea
Week 9: Sample analysis part 1 due
Week 10: Sample analysis part 2 due
Week 12/13: Final project/paper presentations to class
Week 14: Final project/papers due

Ongoing: response papers are due weekly

Introduction:
> Webber, B., & Prasad, R. (2009). Discourse Structure: Swings and Roundabouts. *Oslo Studies in Language, 1*(1), 171-190.

Informational Theories of Discourse Structure

Informational theories of discourse structure model the structure of discourse by analyzing the propositional content of discourse material. This tends to mean that particular meaningful relations are inferred to link segments of the discourse. For example, upon reading the mini-discourse *Max fell. John pushed him*, we infer that John caused Max's falling, even though it is nowhere uttered. These theories would account for this inferred information by assigning something like an Explanation relation, indicating a causal relationship between the two sentences. Crucially, the basis for the analysis is the linguistic content of the discourse.

> Kehler (2002)
> RST
> SDRT
> D-LTAG (Webber et al.)
> > Corpora (RST Discourse Treebank, DISCOR, Penn Discourse Treebank)

Intentional Theories of Discourse Structure

In contrast to informational theories, intentional theories of discourse use speaker intentions or plans as the basis for their analysis. A discourse is then segmented by what the speaker is intending with a portion of their speech. This is often used to analyze direction-giving discourses, where the larger intention may be to explain how to build an engine, but a smaller sub-goal would be how to assemble a part of the engine. How the intentions are actually manifested in language is separate from an analyst's ability to identify the speaker's intentions, and what purpose a portion of the discourse serves.

Grosz & Sidner
Roberts QUD model (1996, 2004)

Comparing informational and intentional theories (Moore & Pollack 1992)

Alternative Approaches, e.g. from Psychology

This section discusses alternative approaches to discourse structure, approaches that question some of the assumptions made above. Wolf & Gibson discuss a corpus study that demonstrates that assumptions of tree-structure approaches like RST are too inflexible for actual discourse production. Levelt (1989) is a landmark work, presenting a model of language production that has had an enormous influence in psycholinguistics. The book discusses language production from message-level planning through to articulation. And while his discussion of message-level planning has not been picked up on much, it provides one of the only models for how discourse structural information could be integrated into a model of language production.

Wolf & Gibson (2005)
Levelt (1989), chapter on message-level planning
Language Log discussion of RST/Wolf & Gibson
        http://itre.cis.upenn.edu/~myl/languagelog/archives/000092.html

Final Project/Paper Assignment

10-15 pages.

        Your final paper is an opportunity to develop your own ideas about one or more theories presented in the course, a chance to demonstrate expertise about the distinctive features of different theories of discourse. You have options:
   1) Apply one theory to novel data that could illuminate some facet of the theory (e.g. segmentation concerns, relation taxonomies, or hierarchy) or something about the data other theories cannot.
   2) Compare two or more theories of discourse, identifying their similarities and differences, what accounts for those contrasts, how one might identify which is better or in what ways they may be complementary.
   3) Your own idea (talk to me).

Schedule:
        Week 4: Send instructor an idea for a project
        Week 8: One page outline of project
        Week 12/13: Brief presentation to class of project
        Week 14: Final project due

Sample Analysis of a Discourse Group Project

   The goal of this assignment is to implement one of the theories of discourse in the analysis of an actual piece of discourse. Students should form groups of 2 (or more) and choose a written and spoken discourse to analyze. Then, each member of the group will be responsible for a different theory with which they will analyze the discourse. After the independent analysis, there will be a final synthesis portion where the group members will analyze each others' analyses, identifying similarities and differences, benefits and drawbacks of each approach and any other issues that may have arisen in the process of doing the analysis.

Therefore, the write-up will be organized as follows:
1. Analysis using theory 1
2. Analysis using theory 2
3. Discussion of pros and cons of each approach

The final write-up is expected to be 8-10 pages.

   Week 9: Each student's analysis should be completed
   Week 10: Assignment due date. Comparison of analyses should be complete.

Compare and Contrast Two Theories Assignment

5 pages

Due week 7. This is before the due date for the sample analysis, so this assignment will prepare students for that one.

For this assignment, you will choose two theories of discourse we have covered in class and compare them. You can compare them along any parameters you are interested in, but some that we will be talking about in class include:

      What kind of data is each theory used to describe?

      What phenomena motivate the theory (Anaphoric reference? Text summarization?)

      What assumptions does each make?

      How does each theory segment the discourse?

      How does each theory identify relations between discourse segments?

      How is hierarchy in discourse represented?

This assignment is a chance for you to explore features of the theories discussed in class. It is intended to help prepare you both for the sample analysis and the final project.

Date	Class Topic	Readings	Assignment
Week 1	Introduction and Overview	None (Each day will be discussion of the theory and then application) Have people make up ambiguities, play around with different structures, try to actively engage with discourse structure. Say a discourse in different ways and see which is more natural.	
Week 2	Kehler	Kehler (2002); Rohde (2010) on relative clause attachment and IC-verbs	Response essays
Week 3	Rhetorical Structure Theory (RST)	Mann & Thompson (1988); Marcu (1999), Den Ouden (2009)	
Week 4	D-LTAG, Penn Discourse Treebank	Webber	
Week 5	Segmented Discourse Representation Theory (SDRT), DISCOR	Asher & Lascarides (2003), Chapters 1-3	Email me idea for final project
Week 6			
Week 7	Sanders et al. taxonomy		
Week 8	Intentional Theories of Discourse	The Grosz & Sidner model (1986)	1 page write-up of final project plan
Week 9	Roberts' QUD Model	Roberts (1996); Context in dynamic interpretation (2004)	
Week 10	Wolf & Gibson (2005); Nakajima & Allen (1993)	Language Log discussion of RST/Wolf & Gibson http://itre.cis.upenn.edu/~myl/languagelog/archives/000092.html	Sample analysis due
Week 11	Social Theories (CA; linganth)	Sacks, Schegloff & Jefferson (1974); Ethnography of Speaking by Hymes (1962, 1964) - -- perhaps do jigsaw, where groups prep each one and then present to others	
Week 12	Systemic Functional	Halliday & Hasan (1985), Introduction to Functional Grammar, Halliday (1995), CH7 "Above the clause", CH9	

	Linguistics	"Around the clause: cohesion and discourse"	
Week 13			Presentations
Week 14			Presentations
			FINAL PROJECT DUE