

TOPICS IN SEMANTICS II
DISCOURSE REPRESENTATION THEORY

Fall 2001 Syllabus

INSTRUCTOR:

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WHEN & WHERE:

MW 4:30–5:50 pm, SEM–108

PREREQUISITES:

Semantics II or permission of the instructor.
(Note that *Topics in Semantics I* is **not** required.)

READINGS:

Kamp, H. and U. Reyle (1993) *From Discourse to Logic*. Kluwer, Dordrecht. [**K&R**]

Moens, M. and M. Steedman (1988) 'Temporal Ontology and Temporal Reference'.
Computational Linguistics **14**:15–27.

Groenendijk, J. and M. Stokhof (1991) 'Dynamic Predicate Logic'. *Linguistics and Philosophy* **14**:39–100. [**G&S**]

Partee, B. (1973) 'Some Structural Analogies between Tenses and Pronouns in English'.
Journal of Philosophy **70**:601–609.

Webber, B. (1988) 'Tense as Discourse Anaphor'. *Computational Linguistics* **14**:61–73.

COURSE DESCRIPTION:

This is an introduction to selected topics in Discourse Representation Theory (DRT), a formally explicit theory of context dependence and dynamic context change in discourse. The focus of the course will be on *dynamic anaphora* — i.e. anaphoric reference that crucially depends on dynamic context change — to ordinary individuals (kings, cabbages and their ilk), times, events and states. There are striking anaphoric parallels between these seemingly disparate semantic domains, and one of the major successes of DRT has been the development of a formally explicit account of these parallels. The course will also stress hands-on experience in working in the DRT framework. Toward this end, we will work our way through **chapters 1, 2 and 5 of K&R** ('classical DRT') as well as **G&S** (DRT with compositionality down to sentence-level), and students will be expected to work out their share of the technical details on a par with the instructor.

REQUIREMENTS:

Approximately 50% of the classes will be devoted to student presentations — 2–3 presentations per class, each by a pair of students. For each presentation students will prepare a handout where they will work out the details of some sample derivations or other technical points in the assigned readings. The presentations will account for 50% of the grade.

In addition, each student will write a short paper (10–15 pages) about some problem involving anaphora, broadly understood, in some semantic domain in a language other English (preferably non-IndoEuropean) and will try to use the tools of DRT to analyze that problem. The paper is due **Wednesday, December 19**, and will account for the remaining 50% of the grade. As usual, there will be no late papers and no incompletes — i.e., I will assign grades based on whatever you give me, or fail to give me, by the due date of December 19.

TENTATIVE CLASS SCHEDULE:

We will study the following readings in the indicated order. If we need more time at any point we'll take it, so we may not cover all of the readings on this syllabus. But hopefully we'll cover most of them.

Week 1

- Introduction.

TOPIC 1 (*weeks 2–3*). From simple discourse to logic via Discourse Representation Theory (DRT).

- Nominal anaphora mediated by discourse referents. Representing dynamic context change and anaphora in discourses with names, indefinite noun phrases and pronouns.
Read: K&R Ch.1: **Sec. 1.1**
- Negation. Models for Discourse Representation Structures (DRSs), verification and accessibility.
Read: K&R Ch.1: **Sec. 1.2–1.4.**

TOPIC 2 (*weeks 4–6*). Discourses with *if, every, or, and*.

- Overview of anaphoric patterns and extended DRT system.
Skim: K&R Ch. 2.
- Constructing and verifying DRSs with conditionals and universal quantifiers.
Read: K&R Ch. 2: **Sec. 2.1–2.2.**
- Constructing and verifying DRSs with disjunction and conjunction.
Read: K&R Ch. 2: **Sec. 2.3–2.4.**

TOPIC 3 (*weeks 7–8*). Tensed sentences in isolation.

- Reference to times and eventualities (events or states). Constructing DRSs for simple tensed sentences.
Read: K&R Ch. 5: **Sec. 5.1, 5.2.1, 5.2.3.**
- Extending DRT models with times and eventualities and verifying DRSs for simple tensed sentences.
Read: K&R Ch. 5: **Sec. 5.6.**

TOPIC 4 (*weeks 9–10*). Tensed sentences in sequence.

- Temporal anaphora. Constructing DRSs for sequences of tensed sentences.
Read: Partee, B. (1973) 'Some Structural Analogies between Tenses and Pronouns in English'.
Journal of Philosophy **70**:601–609.
K&R Ch. 5: **Sec. 5.2.2, 5.2.4.**
- Problems with negation.
Read: K&R Ch. 5: **Sec. 5.2.5.**
Webber, B. (1988) 'Tense as Discourse Anaphor'. *Computational Linguistics* **14**:61–73.

TOPIC 5 (*weeks 11–12: Monday*). Aspectual auxiliaries.

- Constructing DRSs for perfect and progressive aspect. Interaction with temporal anaphora.
Read: K&R Ch. 5: **Sec. 5.3**
- Extending DRT models and verifying DRSs for discourses with aspectual auxiliaries.
Read: Moens, M. and M. Steedman (1988) 'Temporal Ontology and Temporal Reference'.
Computational Linguistics **14**:15–27.

Week 12 (Wednesday). THANKSGIVING

TOPIC 6 (*weeks 13–15*). Composing sentences by dynamic sequencing.

- Dynamic Predicate Logic (1): Introduction and formal system.
Read: G&S '91. **Sec. 1–2.**
- Dynamic Predicate Logic (2): Examples of simple DRS and dynamic sequencing.
Read: G&S '91. **Sec. 3.**
- Dynamic Predicate Logic (3): Negated and implicative conditions.
Read: G&S '91. **Sec. 4–5.**