

SEMANTICS 2:
CROSS-LINGUISTIC DYNAMICS

Syllabus
(draft Apr. 7, 2009)

INSTRUCTOR:

Professor Maria Bittner

e-mail: mbittner@rci.rutgers.edu*url:* <http://www.rci.rutgers.edu/~mbittner> (lecture notes posted under *Semantics 2*)*office hour:* M 8:30–9:30 am

WHEN & WHERE:

MTh 1:10 – 2:30 pm, SEM-108

PREREQUISITE:

Semantics 1, or permission of the instructor

COURSE DESCRIPTION:

In general, linguistic analysis of natural language semantics aims to provide insight into two basic questions:

- *Semantic Representation:*
How can we represent the meaning of a sentence or text, in order to capture native speaker intuitions about truth/falsity, anaphoric dependencies, contextual felicity, coherence, etc?
- *Semantic Composition:*
Given a desired semantic representation of a sentence or text,
 - (a) what is the structural input to semantic composition — e.g. *surface form* or *LF*?
 - (b) how can we represent the meaning of each elementary constituent?
 - (c) given (a) and (b), how can we compose the desired semantic representation of the whole?

In this course we will interpret connected discourses, not isolated sentences; we will consider typologically distant languages (English and Kalaallisut); and we will interpret the surface form of each language directly, not via LF. By combining *Combinatory Categorical Grammar* (CCG) with recent advances in *dynamic semantics* we will work toward a crosslinguistic theory of directly compositional incremental interpretation of natural language discourse.

REFERENCES: Most are available online. Those that are not (•) will be in the xerox room.

Baldridge, J. 2002. *Lexically Specified Derivational Control in Combinatory Categorical Grammar*. Ph. D. thesis, University of Edinburgh.

Bittner, M. 2008. 'Aspectual universals of temporal anaphora.' In *Theoretical and Cross-linguistic Approaches to the Semantics of Aspect* (S. Rothstein, ed.) John Benjamins.

Bittner, M. 2009. 'Tense, mood, and centering.' Under review for *Tense across Languages* (R. Musan and M. Rathert, eds.) Niemeyer, Tübingen.

Dekker, P. 1994. 'Predicate Logic with Anaphora.' *Proceedings of SALT IV*.

•Hamblin, Ch. 1973. 'Questions in Montague English.' *Foundations of Language* 10:41–53.

•Kamp, H. 1981. 'A theory of truth and semantic representation.' In *Formal Methods in the Study of Language* (J. Groenendijk *et al.* eds.), Mathematisch Centrum, Amsterdam, 277–322

•Karttunen, L. 1976. 'Discourse referents.' In *Syntax and Semantics*, Vol. 7 (J. McCawley, ed.), Academic Press, New York, 363–385.

- Moens, M. & M. Steedman. 1988. 'Temporal ontology and temporal reference.' *Computational Linguistics* 14:15–28.
- Muskens, R. 1995. 'Tense and the logic of change.' In *Lexical Knowledge in the Organization of Language* (U. Egli *et al.*, eds.), John Benjamins, Amsterdam, 147–183 [semanticsarchive.net]
- Muskens, R. 1996. 'Combining Montague Semantics and Discourse Representation.' *Linguistics and Philosophy* 19:143–186.
- Partee, B. 1973. 'Some structural analogies between tenses and pronouns in English.' *Journal of Philosophy* 70:601–609.
- Steedman, M. and J. Baldrige. 2007. 'Combinatory Categorical Grammar.'
- Stalnaker, R. 1978. 'Assertion.' In *Syntax and Semantics 9: Pragmatics* (P. Cole, ed.), Academic Press, New York, 147–84.
- Stone, M. and D. Hardt. 1999. 'Dynamic discourse referents for tenses and modals.' In *Computing Meaning*, Vol. 1 (H. Bunt and R. Muskens, eds.), Kluwer, Dordrecht, 301–320.
- Webber, B. 1988. 'Tense as discourse anaphor.' *Computational Linguistics* 14:61–73.

REQUIREMENTS:

There will be eight homework assignments and one squib. There will be *no midterm, no final, no make-up's*, and *no incompletes*.

The **assignments (H1–8)** will be handed out in the classes indicated on the schedule below and will be due at the beginning of the following class. *Late assignments will not be accepted*.

The **squib (5+1 pages max. due May 11)** should demonstrate your ability to read technical literature in semantics—such as (i) Muskens 1995, (ii) Muskens 1996, (iii) Bittner 2009. Your task will be to work through an empirically testable formal analysis in one of these papers, or in a paper (requiring comparable technical skills) that you choose and I approve. Your squib should answer the following questions:

page 1

- what is the empirically testable *descriptive generalization* to be accounted for?
- *key data* illustrating the evidence for this generalization (3 examples, one for each key point)
- what is the *basic idea* of the proposed account? (gist of the story, should make intuitive sense)

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- *formal system* proposed to implement this basic idea (cut-and-paste from the paper, if you wish)

pages 3–5: discussion

- does this formal system account for the key data? for each example spell out enough details of the analysis to show either how the account works (if you say yes) or why it fails (if you say no)

optional page 6

- *additional evidence* for/against the proposed generalization and/or the proposed analysis.

TENTATIVE CLASS SCHEDULE

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

TOPIC 1. NOMINAL ANAPHORA IN ENGLISH: STATIC THEORY

- Th 1/22. Nominal anaphora in English. *Type Logic* (TL).
- M 1/26. Syntax and semantics of TL. **H1**
Read: Baldridge 2002, ch. 2.1
- Th 1/29. Solution to **H1**
Read: Baldridge 2002, ch. 2.2–2.3

TOPIC 2. ENGLISH IN CCG + TL

- M 2/2. Combinatory Categorical Grammar (CCG).
Read: Baldridge 2002, ch. 2.4–2.7
- Th 2/5. English fragment 1: CCG + TL. **H2**
Read: Steedman & Baldridge 2007, sec. 1–5
- M 2/9. Solution to **H2**
Read: Steedman & Baldridge 2007, sec. 6–11

TOPIC 3. NOMINAL ANAPHORA IN ENGLISH: DRT THEORY

- Th 2/12. Discourse referents.
Read: Karttunen 1976
- M 2/16. *Discourse Representation Theory* (DRT). **H3**
Read: Muskens 1996: Sec. I, II
- Th 2/19. Solution to **H3**
Read: Kamp 1981

TOPIC 4. COMBINING DRT WITH TYPE THEORY

- M 2/23. DRT + TL = Dynamic Logic (DL).
Read: Muskens 1996: Sec. III.1–2
- Th 2/26. From DL translation to truth. **H4**
Read: Muskens 1996: Sec. III.3–4
- M 3/2. Solution to **H4**. DL and Muskens' axioms.
Read: Muskens 1995: Sec. 1–3

TOPIC 5. ENGLISH IN CCG + DL

- Th 3/5. English fragment 2: CCG + DL.
Read: Muskens 1995: Sec. 4
- M 3/9. From English to DL (1).
Read: Muskens 1995: Sec. 5
- Th 3/12. From English to DL (2). **H5**
Review: Baldridge 2002: Ch. 2
- M 3/16 – Su 3/22. SPRING BREAK

- M 3/23. Solution to **H5**

TOPIC 6. BEYOND ENGLISH DECLARATIVES

- Th 3/26. Hamblin semantics for questions.
Read: Hamblin 1973
- M 3/30. Stalnaker on assertion. Toward dynamic Hamblin semantics.
Read: Stalnaker 1978
- Th 4/2. 2-sorted Update with Centering (UC2). [MB out of town]
Read: Dekker 1994

TOPIC 7. ASSERTION AND QUESTIONS IN UC2

- M 4/6. Assertion as information update.
Read: Partee 1973
- Th 4/9. Questions as attention update. **H6**.
Read: Webber 1988
- M 4/13. Solution to **H6**
Read: Moens & Steedman 1988

TOPIC 8. ENGLISH AND KALAALLISUT IN CCG + UC2

- Th 4/16. English fragment 3: CCG + UC2
Read: Bittner 2008: Sec. 1
- M 4/20. Kalaallisut fragment 1: CCG + UC2. **H7**.
Read: Bittner 2008: Sec. 2
- Th 4/23. Solution to **H7**
Read: Bittner 2008: Sec. 3

TOPIC 9. TENSE, MOOD, AND CENTERING

- M 4/27. Centering theory of tense. English fragment 4: CCG + UC
Read: Bittner 2009: Sec. 1–2
- Th 4/30. Centering theory of illocutionary mood. Kalaallisut fragment 2: CCG + UC. **H8**
Read: Bittner 2009: Sec. 3
- M 5/4. Solution to **H8**. *Course evaluation*.
Read: Bittner 2009: Sec. 4
Deadline: *squib* (5+1 pages max, see REQUIREMENTS) due May 11, 2009.
Submit as pdf to mbittner@rci.rutgers.edu