Agenda: Finish the Grosz and Sidner theory.

Announcements: We are issuing a "recall": If you lost half a point for not stating what the out-degrees of the documents in the FCC were on question 3b of Homework Four, please bring that homework to class on Friday; we will re-examine and potentially re-grade such responses over the weekend, since there was a problematic ambiguity in my grading guide. (Any other regrade requests should follow the usual procedure.)

I. Example conversation This very slightly edited excerpt from an exchange between a client (C) and a travel agent (A) is taken from Figure 19.5 of Jurafsky and Martin (2000). We have added italics to indicate some things to note (thus, the italics do not indicate stress).

> C1: ...I need to travel in May, leaving from Pittsburgh.
> A1: *And*, what day in May did you want to travel?
> C2: OK uh I need to be there for a meeting that's from the 12th to the 15th.
> A2: *And* you're flying into what city?
> C3: Seattle.
> A3: *And* what time would you like to leave Pittsburgh?
> C4: *Uh hmm* I don't think there's many options for non-stop.
> A4: Right. There's three non-stops *today*.
> C5: What are they?
> A5: The first one departs PGH at 10:00am arrives Seattle at 12:05 their time.
>   The second flight departs PGH at 5:55pm, arrives Seattle at 8pm.
>   And the last flight departs PGH at 8:15pm arrives Seattle at 10:28pm.
> C6: *OK* I'll take the 5ish flight on *the night before* on the 11th.
> A6: On the 11th? OK. Departing at 5:55pm arrives Seattle at 8pm,
>   U.S. Air flight 115.
> C7: OK.

II. Corresponding intentions Note that this differs from that given on the lecture aid for last time. Other analyses are possible as well.

> DS_1 =C1-C7 DSP_1 C wants A (to want) to find a good flight for C.
> DS_2 =A1-C2 DSP_2 A wants C (to want) to give a departure date.
> DS_3 =A2-C3 DSP_3 A wants C (to want) to give a destination.
> DS_4 =A3-C6 DSP_4 A wants C (to want) to give a departure time.
> DS_5 =C4-A5 DSP_5 C wants A (to want) to list nonstop flights.

III. Some (possible) corresponding focus spaces

FS_1: DSP_1 (includes unknown departure date, arrival city, reason, etc), May, Pittsburgh,
FS_2: DSP_2, meeting, May 12th, May 14th (May 11?)
FS_3: DSP_3, Seattle
FS_5: DSP_5, today, the three flights

IV. Requirements for a full discourse analysis Give all the discourse segments, the DSPs and the relations between them, and the state of the focus stack (including the contents of the focus spaces) as it changes over time.

V.   Sample Turing machine We assume the state set, allowable symbols, and other initialization steps have been listed and/or taken care of. We specify that the TM should be started in state "carry".

If reading a "0" and in state "carry", write "1", change to state "no-carry", stay put.
If reading a "1" and in state "carry", write "2", change to state "no-carry", stay put.
If reading a "2" and in state "carry", write "3", change to state "no-carry", stay put.
...
If reading a "9" and in state "carry", write "0", stay in state "carry", move right.
If reading a "blank" and in state "carry", write "1", stay in state "carry", move right.

Note that once the Turing machine is in state "no-carry", it halts. (Also, note that in a way we are allowing a completely blank tape to represent the number zero even though we have a symbol "0", but for simplicity we have elected not to deal with this issue.)

VI.   Another sample TM Again, We assume the state set, and other initialization steps have been listed and/or taken care of. We specify that the TM should be started in the state "loop".

If reading a "1" and in state "loop", write "1", stay in state "loop", move right.
If reading a "2" and in state "loop", write "1", stay in state "loop", move right.
...
If reading a "9" and in state "loop", write "1", stay in state "loop", move right.
If reading a "blank" and in state "loop", write "1", stay in state "loop", move right.