Lecture 6: remaining presentations → mentioned they don't have to work on 'em anymore.
: discourse phenomena hinting @ structure <write this last>

No ~~class~~ next Tuesday   ↖ / handout

<presentations>

Last lecture (Tuesday), we ~~began~~ talked about on-line conversations, an obvious form of language-based social interaction

For ~~this~~ the next couple of lectures, we'll be briefly introducing some ~~of the~~ classic work on understanding the structure of conversations and other discourse.

~~groups of s structured~~

"coherent structured group of sentences [Jurafsky; Martin text]
  - 'monologues'; conversations.

~~The high-level bit is th~~
The executive summary is that there is a tremendous amount going on behind the scenes when you speak or listen 'naturally'.

~~much bi~~
[note: some will be mostly not-currently ~~imp~~ fully-implemented,]
        for reasons that will rapidly become obvious.
    But I still want to present this material b/c I think it's fundamental to understanding discourse, and I think ~~it will be~~ this stuff may represent big opportunities for future systems.

① "rules" of conversation [not our focus]
        I just want to quickly mention some important related work, that's interesting but not what I want to focus on.

    You may have ~~some~~ intuitions about ~~the~~ how conversations are spsed to go.
      Like, if someone asks you a question, you're not spsed to leave it hanging, but instead @ least acknowledge it.
      But there are also subtler 'rules' that seem to influence how we say things and how they'll be interpreted.

example: Grice's [1975, 1978] maxims   (theory of conversational implicature)
                                        ↳ developed as part of his

  'maxim of quantity': <see handout ⊘ #1>

        ~~It~~
        I put in there a recent Google-plus post regarding the
            accepted papers @ NIPS (a machine learning conference)
                                    ↳ very competitive
        "impressed that Michael Jordan has five papers".

        Then there's a comment by the original poster as follow-up.
        Why is the o.p. making this comment? What do they have to
            "apologize" for?

                                ... the ~~start~~ post ⟹ exactly five;
                                        that's the inference we draw.

  'maxim of relevance': be relevant.
        [Rogers ; Norton 2011]: 'artful dodgers'
            political scientists exploring the strategy "Don't answer
                the question you were asked answer the question
                you wish you were asked" (McNamara)
                                                    ^Robert
            - ~~people who answ.~~
            - experiment: same q, two groups of respondents
                                    ↙
                    one answered the q, but not very fluently
                    other gave an off-topic answer that was
                        fluent
                        ↳ eval'd more highly

        That's all quite cool, but let's now turn to sthg else

(II) structure of conversation **   what I want to focus on.

                                            [do not ask for
                                             interpretation;
                                             assert interpretation]

  (A) excursion into pronominal anaphora - pronouns referring to ~~a~~ referent entity
    - demonstrates a way to infer hidden structure in language

        so let's talk about how people determine what a pronoun refers to —
            since that's surely part of figuring out what someone is talking
        about.

starting w/ a very simple example

(a) Jill blames herself .

(clearly, 'herself' is Jill)

/ *himself

→ syntactically unacceptable

(assuming Jill is ♀. No * if Jill is ♂)

so, gender and other features have to match.
Fine, but that's not structural.

(b) Jill ~~thought~~ thinks Bob ~~blamed~~ blames herself

(student proposal: it's who is the subject of the verb that's involved)

* This is not a legal sentence.
What's wrong? In (a) 'herself' was allowed to refer to 'Jill'.

But ~~when~~ here, for some reason it seems like the only possible referent for 'herself' is Bob, which doesn't match gender-wise.

So, maybe there's a locality constraint.

locality constraint??
Two counterexamples (?):

"Jill thinks Bob blames her" is ok, not local.

↓
non-reflexive pronoun
maybe those have different rules.
(indeed, w/ (a) you couldn't have
"Jill blames her"

notice the practice of constructing sentences that vary as little as possible and still get @ the point being examined.

students proposed exactly this and observed it involves a non-reflexive before I wrote anything down.

(c) Bob confronted Bill (all) by himself.
↓
ADV

. confronted w/ these examples, we might say, oh, there's no structural explanation
     her

• ~~For, could say~~

• but, if we're feeling brave in the way that I'd like to encourage you in
     this class to be brave,
   we could say, well, our theory of locality was working pretty well before
   evil example (c) came along. ~~So let's~~

So, let's try to fix, or extend, or refine our notion of locality.

back to above illustration:

[Bob [confronted Bill][all by himself]]

> if we imagine that "all by himself" is "close" to
> Bob and somehow 'separated' from Bill,
> then 'Bob' starts seeming like a nearby target
> again

binding-theory solution: given (NP) parse tree,
   the referent noun-phrase is not an ancestor of the reflexive
   pronoun, but its parent has reflexive as descendant.

for (c):
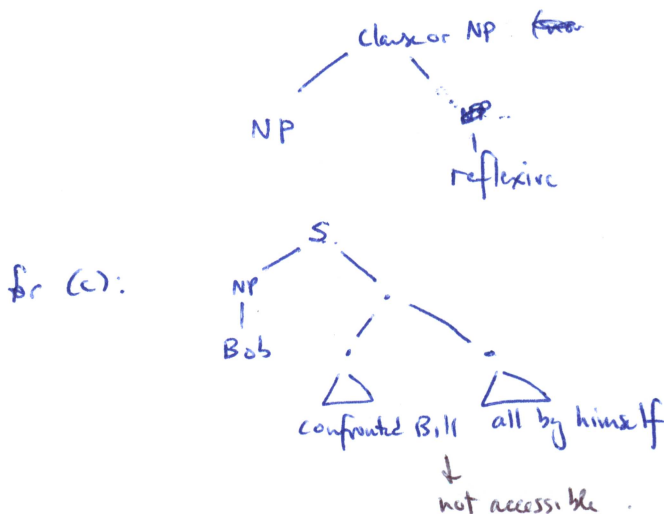
metapoint: some observations about anaphora resolution yield theories of
     hidden sentential structure.

w/ that as warm-up, let's now move beyond a single sentence.

(B) discourse structure, using same style of analysis.

~~So now of that practice~~

The examples on your handout are a little contrived b/c ~~we~~ we wanted to have as little as possible change btwn diff. variants, whereas in real life there are often many redundant signals.

So, just bear with me.

Again using pronouns as a probe...

(2(a):) "it" = the book ∅   vs.   (2(b)) ~~which~~ which differs only by an 'anyway'
                                          "it" more likely to be theory —

So, the single word 'anyway' is changing how we understand the structure of this discourse.

Whereas now look @: ~~titles~~

(2(c)) mixes 2(a) with an xtra line

~~"they've"~~ . "they've" = quarks

but it seems weird. Can try to then claim L5 "it" is "theory", ~~but it would have~~ or alternatively in L6 say, 'oh by the way back to what I was saying'.

Example #3 on handout.

- "it" is @ first blush the wine, despite semantic constraints,
    (wine could perhaps be brown.
      maybe "brown" is one of those wine words, like "oaky").

and the fact that there's a semantically valid possible referent much closer — the table.

⇒ more evidence for hidden structure that can over-ride strong "world-knowledge" constraints.

1. Gricean maxim of quantity at work ("''Be exactly as informative as required").
https://plus.google.com/112461005502186454902/posts/EVvcG719D11

Jordan Boyd-Graber
Shared publicly · Sep 13, 2013

Impressed that Michael Jordan has five papers.

Zoubin Ghahramani originally shared:
#NIPS2013 Accepted Papers are now online!
http://nips.cc/Conferences/2013/Program/accepted-papers.php

NIPS : Conferences : 2013 : Program : NIPS 2013
Accepted Papers

nips.cc

+1

Jordan Boyd-Graber
Sep 13, 2013 · *+1*
As Tamara points out, I'm technically correct (the best kind of
correct), but cannot count. While Mike does have five papers
this year, he also has one more. :)

Add a comment...

2. Adapted from Sidner [1979].

2**(a)**
1. Albert is a nice guy but a little clueless.
2. He told me he was sending me a book, but he sent it by surface mail.
3. It was actually a pretty interesting book —
4. apparently there's a weird new theory involving "sideways" quarks.
5. Anyway, I finally got it about two weeks ago.

2**(b)**
1. Albert is a nice guy but a little clueless.
2. He told me he was sending me a book, but he sent it by surface mail.
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2**(c)**

1. Albert is a nice guy but a little clueless.
2. He told me he was sending me a book, but he sent it by surface mail.
3. It was actually a pretty interesting book —
4. apparently there's a weird new theory involving "sideways" quarks.
5. Anyway, I finally got it about two weeks ago.
6. They've been fundamental to understanding the "new relativity".

3. Allen's (1995, pg. 435) adaptation of Wilks [1975]. (Also discussed in Hirst [1981, pg. 55].)

John drank the wine on the table. It was brown and round.

4. Credited by Grosz and Sidner [1986] to Polanyi and Scha "forthcoming", although the published versions of Polanyi and Scha that I was able to find give a similar but longer discourse.

a. John came by and left the groceries.
b. Stop that you kids.
c. And I put them away after he left.

5. From Grishman [1986, pg. 157].

A: Do you know when the train to Boston leaves?
B: Yes.
A: I want to know when the train to Boston leaves.
B: I understand.

References

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