Incremental Syntax and Semantics Seminar

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Universität des Saarlandes

– WS 2012/3 –

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Topics today

1 Introduction to Incremental Processing

2 Course Requirements

3 Organization: Time Slots

4 Giving a good talk

Table of Contents

What does "Incrementality" mean?

From a syntactic perspective, incrementality means word-by-word processing. Could be syllable-by-syllable...

"Incremental Processing" is practically used in different ways:

- input read in incrementally
- incremental input processed partially
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Example of *strict incrementality*

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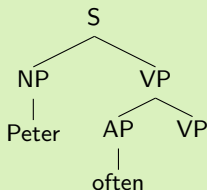
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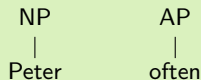"Incremental Processing" is practically used in different ways:

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Example of *strict incrementality* in syntax

incremental parsing:

```
          NP
          |
        Peter
```

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incremental parsing:

non-incremental parsing:
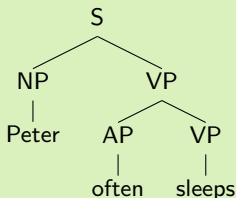
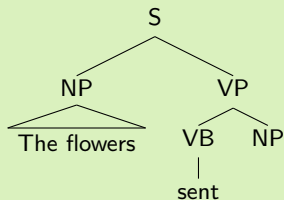(two trees on a stack to be connected later)

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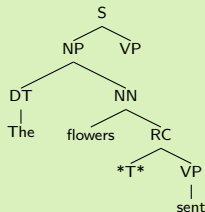Could be syllable-by-syllable...

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Example of *strict incrementality* in semantics

$\{\exists x \ flowers(x) \ \& \ send(x, y)\}$ $\{\exists x \ flowers(x) \ \& \ send(someone, x)\}$
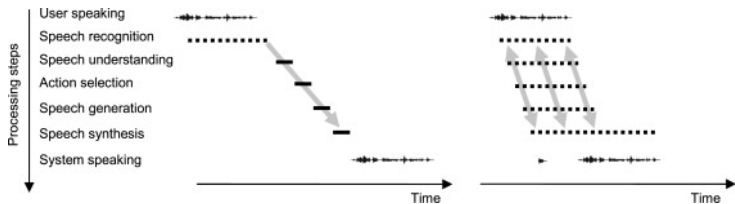
Why should we care about incrementality?

Psycholinguistic motivation:

- substantial evidence that human processing is incremental to a high degree, possibly "fully"
- learn about cognition by building strictly incremental processing models
- what advantages does it have that we can learn from for NLP?

Motivation from language technology

- speed up processing in real-time or time-critical applications
- relevant for dialogue systems, speech recognition, speech-to-speech translation

(graphic from Hjalmarson and Skantze 2012)

Coarse-grained overview of topics in this course

1. Introduction / Motivation:
   - **Psycholinguistic Evidence** for incrementality
     - historic discussion: strict competence hypothesis
     - psycholinguistic experiments on incrementality and prediction
   - Incremental processing for NLP **applications**

2. Incremental Syntax

3. Towards Incremental Semantics:
   - Neo-Davidsonian Event Semantics
   - Recent results in compositional distributional semantics
   - Scope and underspecification from an incremental point of view

Table of Contents

Requirements for this course

- **A presentation** (40 min) based on 1-2 papers (70%).
- (if > 6 students:) fill in **a peer review form** for each presentation (15%).
- **Must read one of the papers** in advance each week and prepare **a short summary** of it, which you send in by email to both Asad and me; participation in the discussion is graded (15%).
- (If you registered for the seminar for 7 points) write a **term paper** (12-15 pages) at the end of the semester.
- **Attendence**: You can miss ONE seminar without giving an explanation; if you miss more, you have to hand in a critical review for the discussed paper in addition to the usual summary.
- Oral exam offered for this course.

Peer Review Forms

WHY peer review forms?

You profit as a reviewer:

- goal: to make you more observant of other's talks
- learn more from presentations given by others
- all comments to the presenter will be ANONYMOUS

You profit as a presenter:

- remind you which criteria are important
- **feedback:** you will get lots of *detailed* feedback on your talk

Note on grading for review forms: good grade = thoughtful comments, give *constructive* comments in addition to the box ticking.

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Organization: Topics and Time Slots

Please:

- Send me an email with your top 3 preferred topics **by MONDAY**.
- If you want to have a specific time slot, please also let me know in that email
- If you're particularly keen on a specific topic and / or time slot, please write me an explanation for why this is so important to you.

    EMAIL ADDRESSES: vera and asayeed at coli.uni-saarland.de

Next week:

- finalize time table
- historic background to debate on incremental processing

Table of Contents

Giving an academic talk

Important aspects:

- Content
- Use of audio-visual aids (slides)
- Speaking style

Content

Common mistake: too many technical details, not enough motivation

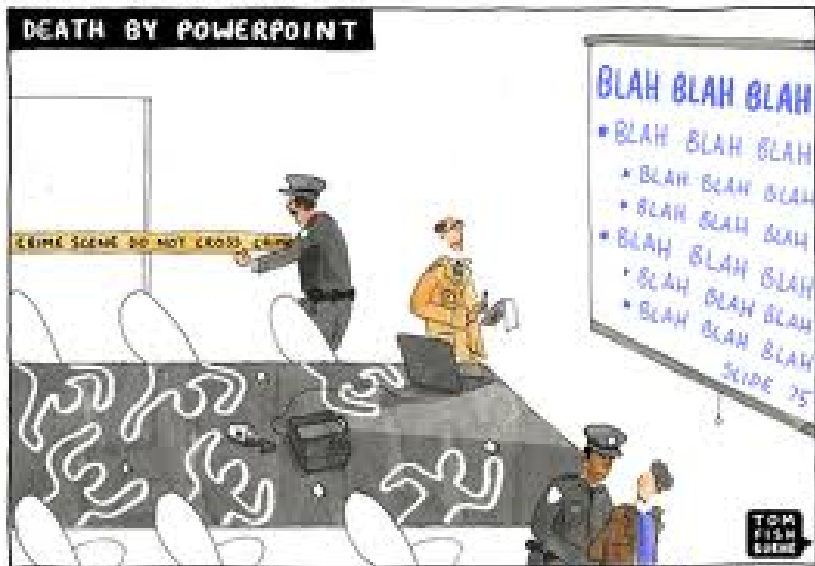"Well, Stoddard, I think I've bounced enough ideas off you for one day."

Motivation

Why is the problem you are solving important?

- Make the audience feel the pain
- Make them think "I can't believe this hasn't been done before!"

Main message

- Have one main message to convey
- Make clear how the different parts in the talk relate to one another
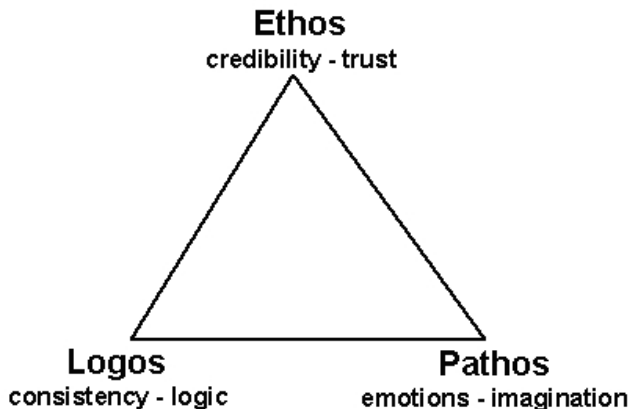
Use images instead of words!

No excessive use of bullets, no full sentences!

All staff are concerned about the gap

- In closing the gap of employment,
- The assessment should be used to identify the type of service being rendered to the client.
- PROCESS-For clients who have been terminated due to cause, suitable employment can be found in many industries and or companies
- OUTCOME the client will be able to identify 3-5 industries or companies that may hire them given their ability and competence profile.
- A functional resume will be used to minimize the impact of loss of employment and breaks in service.
- Clients will be able to conduct research into industry or companies that would b suitable employment matches for them.

Rhethoric Devices

- Use rhetorics to link ideas and parts of presentation.
- Rhetoric questions ("Why is this important?")

Ethos
credibility - trust

Logos
consistency - logic

Pathos
emotions - imagination

Giving the talk

usually better	usually worse
Talk	Read
Stand	Sit
Move	Stand still
Vary the pitch of your voice	Speak in a monotone
Speak loudly, facing the audience	Mumble, facing downward
Make eye contact	Stare at your laptop
Finish within your time limit	Run overtime
Rehearse	Don't practice because you are too busy working on the slides
Notice your audience; respond to it	Ignore audience behavior
Emulate excellent speakers	Emulate your advisor, even if s/he gives lousy talks

How to prepare for your presentation

- Read your paper(s) well in advance (2-3 weeks before your presentation date)!
- in order to understand them well, you'll probably have to read them 3-4 times! Send Asad and me an email if there is something you don't understand.
- prepare your slides
- note: making *good* slides takes a lot of time!
- meet Asad or me one week before your presentation, send us your slides *before* the meeting
- train your presentation style in front of your flatmate / the mirror / ...
- you'll probably have to go through your presentation 3-10 times before you'll be able to give it well.

To Summarize

For next week, please:

- choose a topic and let me know by email
- sign up for the mailing list
- read one of the papers on the historic discussion (see webpage)
- send in short summary of your chosen paper.