Re-thinking The Teaching of Linguistic Courses in the Computer Age

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The Problem

- Linguistic courses especially those involving Transformative Generative Grammar and Phonetics (and phonology) have high failure rates
- These disciplines form part of the foundations of linguistics and thus they are essential

The Facts

- These courses require students to think differently, hence the difficulty
- These courses are tough even for full-time students.

The Issues

- Some tutors are not competent enough in these disciplines to teach these courses.
- The students need a lot of guidance to pass these courses at the levels required.

What to do?

- Teaching it from the other end.
- Traditional approach: teach rules then practice
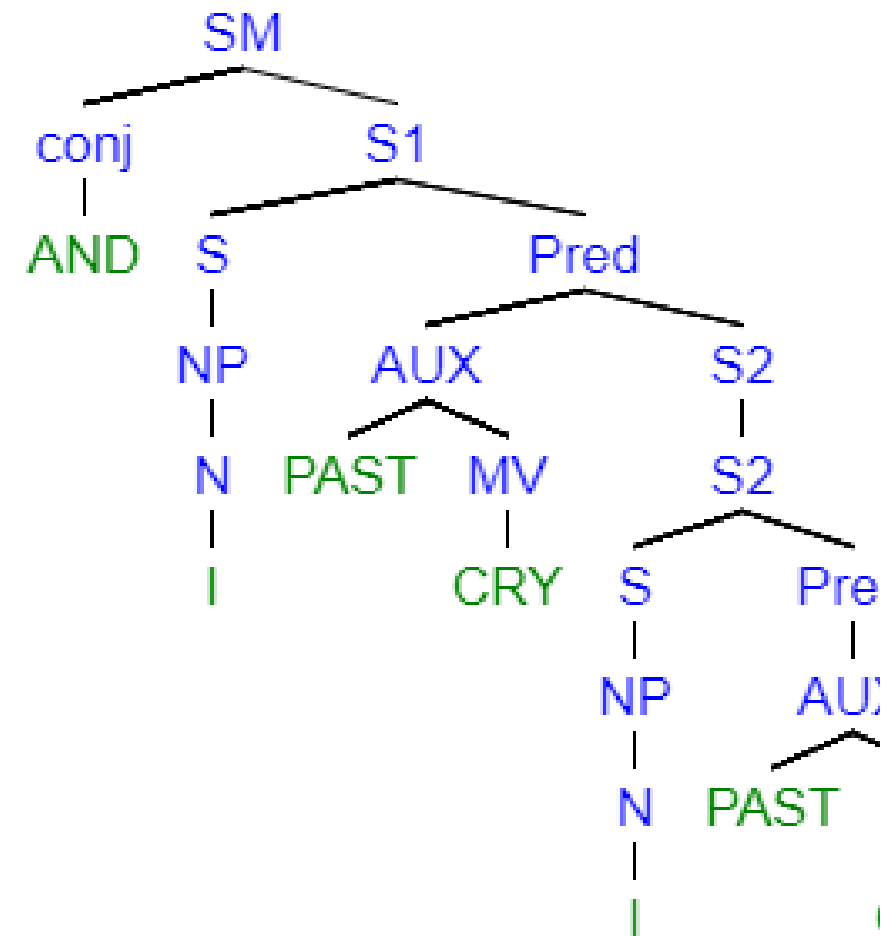- Computer Assisted approach: Teach rules then generate with computer then analyse and practice.

What happens?

- The students can readily generate outcomes of the techniques, they only need to learn to recognize the correct outcome and try it out for themselves

Computer assisted sentence parsing

What they now need to learn is to identify the constituency. Eg – *"I cried and I cried"*

SM [conj AND] [S1 [S [NP [N I]]] [Pred [AUX PAST] [MV CRY]] [S2 [S2 [S [NP [N I]]] [Pred AUX [PAST] [MV CRY]]

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                    SM
           ┌─────────┴─────────┐
         conj                  S1
          │              ┌──────┴──────┐
         AND             S            Pred
                         │         ┌────┴────┐
                        NP        AUX        S2
                         │      ┌──┴──┐      │
                         N    PAST   MV      S2
                         │           │    ┌──┴──┐
                         I          CRY   S    Pre
                                     │         │
                                    NP        AU
                                     │       ┌─┴
                                     N     PAST
                                     │
                                     I
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The tool to use

1. http://mshang.ca/syntree/
2. http://www.ironcreek.net/phpsyntaxtree/

Implication

- Video lectures with chapter addition for common use
  - HBET2103, HBET2203,
  - HBEL1203 & HBEL3203:
    1. What is TG grammar & PS rules
    2. How to use the internet to drag tree-diagrams
    - Add common chapter for HBET2103, HBET2203, HBEL1203 & HBEL3203:
      Title: TGG Phrase Structure analysis and tree-diagrams with the internet

What is needed?

- To translate PS rules into simpler rule "nuggets" that students can cut and paste to form "sentences" that computers can understand
- Example:
  - Sentence
    - [S [sm] [S]]
    - [S [Subj] [Pred]]
  - Subject
    - [Subj [NP]]

Noun Phrase

- [NP [det] [AP] N [-pl] [PrepP]]
- [NP [Pro]]
- [NP [NP] [NP]]
- [NP [NP] [AP]]
- [NP [NP] [PrepP]]

Computer assisted phonetic transcription

1. http://lingorado.com/ipa/
2. http://www.photransedit.com/Online/Text2Phonetics.aspx

Writing in IPA script

- http://www.typeit.org/
- http://www.photransedit.com/Online/TypeIPA.aspx