OT and Cognitive Science

week 1 (January 15, 2014)

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`http://www.birot.hu/courses/2014-OT/`

Tamás Biró

- `www.birot.hu`

- `http://ling.yale.edu/people/tam-s-bir`

- `http://www.birot.hu/courses/2014-OT/`

- Budapest $\rightarrow$ Amsterdam $\rightarrow$ New Haven

- Call by first name, most pronunciations accepted.

The goal of this seminar is. . .

. . . to benefit each of us.

• My goal is to prepare a research project on

  "Optimality Theory as a General Cognitive Architecture"

• and to read on various aspects of OT.

• Your goals?

Optimality Theory
as a General Cognitive Architecture?

`http://www.birot.hu/events/OTGCA/`

- What is OT?

  – in a narrow sense
  – in a broad sense

- What makes something a "general cognitive architecture"?

  – philosophical aspects
  – computational aspects
  – coverage

Format of the seminar

- Reading and discussing articles (10%)

- based on which: 3 "written response" ($3\times15\%$).

- Term paper (40%) on any related topic of your choice. Prospectus due: March 10. Paper due: April 30.

- And whatever else you would like to do. Such as,. . .

Philosophical aspects

- OT as a scientific model

- OT as a model of the human brain/mind

Computational aspects

- mathematical definition

- implementations:
  - dynamic programming / chart parsing
  - connectionist implementations
  - finite-state OT
  - heuristic implementations: simulated annealing, genetic algorithms

- learnability and evolutionary models

- OT vs. Harmonic Grammar and Maximum Entropy OT

Broadening the scope

- OT in phonology

- OT in syntax, semantics, pragmatics. . .

- OT beyond linguistics: anthropology. . .

- OT-like approaches elsewhere: e.g., rational-choice theory.

And what about

- Reading *The Harmonic Mind*

- Jointly working on an implementation
  such as `http://www.birot.hu/OTKit/`.

See you next week!