

OTKit: Tools, Tricks and Techniques

TAMÁS BIRÓ

University of Amsterdam, Netherlands t.s.biro@uva.nl



AMSTERDAM CENTER
FOR LANGUAGE AND
COMMUNICATION



Tools for OT



ABSTRACT

Optimality Theory has been extremely popular for almost two decades now, but many OTers have a constant feeling of insecurity: ‘Have I not made a mistake in my analysis? Have I correctly listed the violation marks in the tableau?’ In the case of a large and complicated candidate set, even the best linguists often present flawed arguments, because they do not realize that there is an even better candidate with respect to the proposed constraint hierarchy. That is the point where computer software can support linguistic research. *OTKit* is such a software package, still under development. Download it from <http://www.birot.hu/OTKit/>, and give your feedback (including what features you would like to see in it) to its author.

OTKit: Tools for Optimality Theory

- Java-based, platform-independent (Windows, Unix/Linux, Mac...).
- Graphical user interface for beginners (see picture).
- Scripting language and XML data structure for intermediate users.
- Java library for programmers: classes for forms, candidates, violations, constraints, hierarchies, Gen, production and learning algorithms, etc.
- Documentation: online help, manual, Javadoc, DTD.
- Download from <http://www.birot.hu/OTKit/>.

Compared to paper-and-pen linguistics, to other software

- Need of *explicitness*: what are the candidates? how many violations?
- Constraints as functions, not as desiderata. No need to list violations per candidates explicitly. User interface offers a large range of constraints.
- Possibly infinite candidate set. Find best candidate using simulated annealing. (Currently in Java library, yet to come in user interface.)
- Opportunity to generalize the notions ‘violation’, ‘candidate’, ‘ranking variable’, ‘learning step’. Constraint arithmetic. Ranking variable operations.

