

Optimality Theory and Cognitive Science (seminar)
LING 228 01 / 628 01
Written response #2
Due: April 11, 2014

The goal of this *written response* is to formally check you have done the readings, as well as to help you **synthesize** your knowledge. Your response can be submitted either on paper or in email, but please avoid hand-written answers.

Problem: “Dialects” of Optimality Theory

In 2003, a workshop was held in Stockholm, Sweden, on “Variations within Optimality Theory”.¹ The goal was to compare numerous “dialects” of OT, as the organizers called them, such as “Bidirectional Optimality Theory, Stochastic Optimality Theory, Primitive OT,² etc.” (quoting the call-for-papers), as applied to various fields in linguistics, ranging from phonology to pragmatics.

Oversimplifying the facts, what we need for a language to develop dialects is a large population of speakers that is sufficiently fragmented so that communication across sub-group boundaries become very weak compared to in-group communication. Similarly, the success of Optimality Theory in the first decade subsequent to its appearance, and its application to many different domains led to the emergence of such “dialects” by 2003. Researchers with different disciplinary backgrounds (philosophy vs. computer science, historical linguistics vs. physics), working on different levels (phonology, syntax, semantics, etc.) and aiming at explaining different kinds of data (cross-linguistic typology vs. historical change, free variation vs. child language acquisition, etc.) developed their own varieties of Optimality Theory. Not only did the workshop feature papers on Paul Boersma’s *Stochastic OT* and Reinhard Blutner’s *Bidirectional OT*, but it was probably also the first time a connection between OT and Game Theory was made, and the *Maximum Entropy* version of OT was also first presented here.

Since 2003, many more “dialects” have been introduced (or moved to the foreground), including Sympathy Theory, Harmonic Serialism, Simulated Annealing for OT, Harmony Grammar, the ICS Architecture, and so forth. As it is notoriously difficult to draw the line between being “a dialect of a language” and “a different, though related language”, I do not think we could or should contrast “a dialect of OT” to “a theory different from, even if related to OT”. And yet, for the sake of an intellectual exercise, I am asking you to do so.

¹Refer to <http://linguistlist.org/callconf/browse-conf-action.cfm?ConfID=1621>. See the proceedings at http://www.ai.rug.nl/~spenader/public_docs/VariationsOT_Proc.

²*Primitive Optimality Theory* (OTP) was introduced by Jason Eisner in 1997 (see also Albro 1998) as a finite-state friendly version of OT.

Here is your assignment:

In approximately 3 pages, provide a comparative (and critical) description of *Optimality Theory, its dialects and its relatives*. Argue for some delineation of OT: what counts as belonging to it, and what falls beyond its borders? Include references in a scholarly manner, demonstrating your familiarity with the literature.

Let our “standard variety” (our reference point) be *mainstream Optimality Theory* (as introduced by any classic phonology textbook, or by Chapter 12 of *The Harmonic Mind*): universal markedness and faithfulness constraints assigning violation marks to a set of candidates generated by Gen, which are ranked into a strict domination hierarchy, etc. Then, you will compile a list of competing “idioms” including those discussed in class, and possibly also including a (selection of) varieties from your previous studies. This list should not only cover “dialects” of OT, but also “remote languages” of your choice that may be interesting to have included in this comparison, especially if they help you make your point. (Why not include something like *Game Theory*, or Chomsky’s *Principles and Parameters*, or *Rational Choice Theory*?)³

You most probably will provide a list of characteristic features, such as “describes phonology”, or “explains cross-linguistic typology”, or “includes soft constraints”, or “is meant as a cognitive model”, or “can be learnt”. Then, I suggest you create a table of how these characteristics apply to different “idioms”. Finally, you can argue for some delineation of OT by distinguishing between “central features” and “accidental features”; but more nuanced or very different argumentative strategies are also welcome.⁴

As your summary, you will conclude by proposing a (probably highly debatable) definition of Optimality Theories, tentatively answering the question how far one may go so that a theory still fall within the “OT theoretical framework family”.

Consider this assignment as a rhetorical exercise. Do not worry if you cannot fully identify with your own conclusion. Do not worry either, if your conclusion diverges from my stand on OT.

³Similarly to the description of language varieties, it is more useful here to be selective and choose representative examples than to be comprehensive. If really needed, a “comprehensive list” could be included as an appendix.

⁴Any machine learning technique to distinguish between “OT-like” and “non-OT-like” feature combinations?