Why Patterns? From microstructure to macrostructure in OT

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Linguistic theories, often, are composite objects, which define grammars indirectly as (relatively) free combinations of basic primitives. An early conceptual mis-step was to regard this property as a nuisance rather than a boon; emphasis was then placed on introducing higher-order steering mechanisms (e.g. "constraints on transformations") which allow the analyst, like one of those pre-Newtonian angels guiding the planets, to make sure that things do not wander off course.

Considerable steps have been made in the direction of recovery, but an important correlate of theoretical compositionality has perhaps not fully sunk in: the analyst, no longer the great helmsperson, faces a theory that dictates what is and is not an analysis and autonomously determines its structure. But just because you write down some premises, even if they strike you as conceptually or empirically inevitable (or 'optimal' in the loose sense the term is often used), doesn't mean that you know what they entail! Or that it is easy to find out.

So the analyst must analyze the theory as well as the data if there is to be any hope of knowing what the theory really says about the data. This effort displaces in importance the historically favored 'betterness struggle', which presupposes that it is easy, and essential, to argue that your favored theory is superior to alternatives, often with little scruple about the level at which they are understood.

In this talk, I examine the structure of Optimality Theory, aiming to assemble the objects of that theory from their source in the very idea of optimality. At the microstructural level, we specify an OT system S by defining constraints (S.Con) and the forms they evaluate (S.Gen). That's it. Given the definition of optimality, everything else arises from these bare bones without human intervention. Our goal is to trace the path of ascent.

We can portray it schematically as a sequence of ever-more inclusive hierarchical groupings.

- allowed forms & mappings	S.Gen	microstructure
- possible optima	optimality	↓
- set of possible optima	Language	
- set of languages	Typology	macrostructure

constraints	S.Con	microstructure
- rankings of S.Con	optimality	↓
{ set of rankings	(R) Grammar, ERC	
{ set of ERCs	(E) Grammar	
- set of grammars	Typology	macrostructure

The ERC is the 'elementary ranking condition' which allows us to represent and characterize grammars in terms of relations between sets of constraints. The *grammar*, properly understood, is a component of the *typology* of the system. With these derived notions in place, we can investigate the macrostructure of the typology itself — the principles that organize its grammars

into similar and contrasting classes, and give the sense of the 'linguistically significant generalizations' that they incorporate. This is the domain of Property Theory (Alber & Prince 2018, et seq: see references), which is ultimately concerned with the way that microstructural constraint interactions produce macrostructural patterns.

We develop this perspective by first getting a clear view of the microstructural premises and then concretely pursuing a relatively simple but still linguistically interesting example to the farthest known reaches of its macrostructure. Along the way, we spot the critical junctures where theory parts company with data-modelling/computation, and where analytical methodology has the choice of responding to one or the other, with heavy consequences for what is visible or obscured in the theory-data relation.

Background References (selected)

Caveat lector: Further (published) sources exist for some of these. In the interests of conciseness and lassitude, reference is only given to a downlable source here.

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