

Guest Editors' Introduction

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Optimality Theory (OT) was developed in the 1990s by Alan Prince and Paul Smolensky as a general theory of language and grammar. Crucial for OT is Smolensky's idea of identifying a connectionist notion of well-formedness (Harmony) with linguistic well-formedness. In OT a grammar consists of a set of well-formedness constraints. These constraints apply to representations of linguistic structures simultaneously. Moreover, they are soft, which means violable and potentially conflicting. At least an important subpart of these constraints is assumed to be shared by all languages. Individual languages rank these universal constraints differently in such a way that higher-ranked constraints have total dominance over lower-ranked constraints. Possible output candidates for each underlying form are evaluated by means of these constraint rankings. The output that best satisfies the constraints is the optimal candidate and will be realized.

Although only recently OT was applied to semantic and pragmatic analysis for the first time, the last two years have shown a remarkable growth in the use of soft, conflicting constraints to characterize natural language interpretation. In the OT semantic theory developed by Hendriks & De Hoop (1997, to appear), each grammatical expression is associated with an, in principle, infinite number of interpretations. These candidate interpretations are tested against the ranked constraints in a parallel fashion. One of the advantages of such an approach is that constraints of various nature (syntactic, pragmatic, etc.) interact with each other in a truly cross-modular way. This view crucially differs from the classical compositional approach, where one interpretation is computed on the basis of the syntactic input, making use of context only when necessary. One aspect that receives a lot of attention in this special issue is the adequate treatment of the roles of the speaker's perspective (generation) and the hearer's perspective (comprehension). Whereas OT syntax optimizes syntactic structure with respect to a semantic input (one might say that OT syntax takes the perspective of the speaker, who has a certain thought and wants to express this correctly and optimally through a syntactic structure), OT semantics, on the other hand, takes the point of view of a hearer, who hears (or reads) a certain utterance and wants to interpret it correctly and optimally.

Several papers in this special issue argue in favour of a bi-directional OT, where the speaker's and hearer's perspectives are taken simultaneously. Reinhard Blutner establishes a conceptual framework that realizes the integration of the two perspectives. A bi-directional approach explains interpretative preferences that are problematic from the speaker's point of view as well as blocking effects that cannot be explained from the hearer's perspective. Blutner argues that his bi-directional framework captures the essence of the Gricean maxims and the balance between informativeness and efficiency in natural language processing.

Henk Zeevat argues for a slightly different combination of syntax and semantics that avoids certain problems of Blutner's bi-directionality. In Zeevat's view, OT syntax is the basic framework, which also deals with interpretation. This program is extended with a bi-directional pragmatic component in the spirit of Blutner. The resulting asymmetry between OT syntax and OT semantics is consistent with the vast differences between what people can say and what they can understand.

Another case of syntax/semantics interaction is the Finnish partitive construction discussed by Arto Anttila and Vivienne Fong. This construction exhibits a case alternation that is partly semantically and partly syntactically driven. The crucial syntactic and semantic constraints conflict with each other leading to various kinds of outcomes, including free variation and ambiguity, as well as preferences in expression and preferences in interpretation. An OT analysis of these facts is developed based on partially ordered grammars. Partial ordering is argued to be crucial in deriving ambiguity and blocking effects.

An important question in OT semantics is whether we can account for cross-linguistic variation in interpretation as a result of different rankings among the different types of constraints that relate form and meaning. Alice ter Meulen accounts for differences in reflexivization strategies of Dutch and English by supplementing binding principles applied to Dutch reflexives with optimality considerations and a general principle of linguistic economy. Dutch SE-reflexives optimally encode coreference in contrast to English ordinary bound pronouns.

The framework of OT naturally suggests itself for dealing with a wide range of problems in semantics and pragmatics, according to Bart Geurts. Geurts' paper can be viewed as a reply to the OT treatments of presupposition proposed by Blutner and Zeevat. Geurts compares the Informativeness Principle (which states that more informative readings are preferred to less informative ones) to his own Buoyancy Principle (which states that backgrounded material tends to float up to the main context) and concludes in favour of the BP.

The papers in this issue share the goal of elucidating the processes of natural language interpretation, but the theoretical perspectives differ from one another. In the paper by Paul Dekker and Robert van Rooy some parallels are pointed out between principles employed in OT interpretation, and notions from the field of Game Theory. OT interpretation is defined as what Dekker and Van Rooy call an 'interpretation game' and optimality itself is the solution concept for a game. More in particular, optimality is characterized in terms of the game-theoretical notion of a 'Nash Equilibrium'.

We hope that the present collection of papers will bring the project of OT semantics to the attention of a broad linguistic community. The papers in this issue represent some of the major developments in OT semantics and they will hopefully form a basis for future research in this exciting new field.

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