



## Editorial: Semantic Approaches to Binding

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Binding phenomena in natural language continue to challenge investigators to provide more adequate characterisations of what is (im)possible and why. Binding relations are fundamentally semantic in nature. They arise as relations that are established with an interpretation. This is most apparent with dynamic binding, of the kind found in Dynamic Predicate Logic. Here it is the runtime of the evaluation that may permit a binding relation, in opposition to what syntax would suggest.

Such a clear cut role for semantics as determinant for what is (im)possible is not always the case. With classical (static) binding, the relations visible from syntax are the relations that get established with an interpretation. Constraining syntax here, constrains semantics likewise. In this way, many constraints have been proposed for syntax that are felt on binding (the archetypal example is Chomsky's Binding Theory). The venture of placing constraints on syntax to rule out binding relations (especially sentence internal relations) for a long time seemed the way to go, since there were not obvious constraints one could impose in the semantics to derive the same results.

That semantics has non-stipulative constraints to offer is readily seen in the case of dynamic binding, where the derived notion of accessibility determines what is a possible binding relation. In this issue, which has grown out of a workshop on semantic approaches to binding theory held at the 16th European Summer School in Logic, Language and Information in Nancy, August 2004, we present seven perspectives that show how semantic techniques can provide additional rationales for why binding data takes the form that it does.

Ed Keenan opens the issue with a paper that incorporates anaphors into the approach of generalized quantifier theory. This provides a means of interpreting anaphors directly in terms of denotations rather than translating them into bound variables. Keenan offers a syntax-independent, cross-linguistically applicable definition of ‘anaphor’ which enables one to non-circularly identify anaphors in different languages and to provide answers to questions such as whether all languages possess lexical anaphors, whether anaphors are always locally c-commanded by their antecedents, and so on.

David Oshima draws together research on logophoric, deictic and empathic binding with an eye to determining whether these concepts can be conflated or are all needed independently. The answer given is that each of these concepts is distinct. The paper closes with an analysis of anaphora based on empathy. This takes the form of a semantic definedness condition placed on anaphoric expressions.

Eric McCready’s paper makes a clear empirical claim about the binding of logophoric expressions: intersentential logophoric binding relations crucially involve a subordinating discourse relation. Prior research on logophoric expressions has focused on intrasentential relations, while the present paper focuses on intersentential relations. This places the discussed data involving the Japanese anaphor *zibun* at the crossing point of what are inter- and what are intra- sentential relations. What is left outstanding is how these two strands of data can be linked. But this does leave a tantalizing prospect, as having a handle on subordinating relations at the discourse level might yet feed into the intrasentential view of things.

Alastair Butler introduces a system with overt operations of scope control. With the defined system, what is the binding scope is not strictly inherited from the enclosing context, but remains open to manipulation along restricted lines. The restrictions imposed by the system are then shown to match up with the restrictions of a range of binding effects, involving both intra- and inter- sentential dependencies.

Lenhart Schubert presents a variation on dynamic predicate logic in which existentially quantified variables can be functions. This has the distinctive advantage of allowing for a direct representation of functional reference, without the need for *ad hoc* repetition of material. This furthers what is a distinctive rallying call of dynamic semantics: to reduce the gap between the natural language data and its representation as a formula.

Rick Nouwen’s paper begins with the observation that quantified appositives have a limited distribution akin to the limited distribution of quantified discourse anaphora. This suggests capturing the appositive data with techniques from dynamic semantics that already characterise the properties of discourse anaphora. This gives rise to an intriguing 2-dimensional framework, which serves to model the intuitively supplementary nature of appositives.

Jason Mattausch brings us back to core binding phenomena. But here the interest is not only with what is possible and what isn't, but also with the emergence of what is possible. Mattausch argues that principle-based approaches to binding theory are both descriptively and explanatorily inadequate and shows how a functional, frequentist explanation of basic binding phenomena can be formally spelled out by referring to a formal theory of language learning and a formal theory of language evolution.

Taken together, the seven contributions of this issue illustrate the rich and various ways in which semantic tools and concepts can be used in the study of binding phenomena. What is perhaps most engaging is that the scope of empirical coverage includes and extends well beyond the rubric of binding theory as standardly conceived. We hope that these contributions give the reader a sense of the potential semantic techniques offer for reaching an understanding of binding phenomena and inspire further work in this area.

Finally we would like to thank the 12 reviewers who so readily agreed to review the submissions we received, and who supplied the authors and ourselves with such useful comments.