Chapter 6
Conclusion

In this book I have tried to build a theory that lets us ask (and sometimes even answer) questions concerning the structure of languages. Some of the results plainly validate some of our intuitions; others have been surprising (at least to me). The road has been fairly difficult not the least because exact results are difficult to obtain and because new techniques had to be found.

We are now at the end of our journey. Many questions have been answered and many new ones arose. I shall summarise this work with a few remarks.

- Some tangible results have been established. For example, it has been shown that it is not possible to reduce all ambiguous languages to unambiguous ones (at least if we want to keep the syntactic complexity). Or that concept based predicate logic with infinitely many variables does not have a compositional context free grammar. These results seem to be pretty robust. They cannot be made to disappear if minor changes are made to the languages.
- The study of interpreted languages really has just begun. We need to understand better in what ways the shift from string languages to interpreted languages changes our outlook on various issues. Mathematically, new combinatorial methods need to be developed. They might help us to understand better in what ways semantics determines syntactic structure.
- On the way I have tried to make progress also concerning the overall structure of language. For example, notions such as morphological transparency, realphabetization and abstraction were attempts at understanding why natural language apparently has more structure (in the sense of architecture in terms of levels or strata) than the present framework (and others) make believe.
- Negative results are typically hard to obtain. This contrasts with a lot of claims in the literature that suggest that certain phenomena force us to adopt or abandon a specific framework because of compositionality. Most of these results either follow because quite specific assumptions have been made at the outset or because the authors simply are not imaginative enough about counterstrategies. For example, I have not been able to show conclusively that there is no TAG for boolean logic if we allow the semantic functions to be partial, though it seems certain that this claim is true. Nor have I been able to find a countable language that is not independent.

- The results established here make use of some additional hypotheses about language, some of which are indispensable such as the hypothesis that rules do not destroy any structure. Others might be more controversial, for example that syntactic structures are sequences of strings and nothing else.
- The literature in formal semantics operates with high powered tools. Often however the justification in using them is only that they provide a functioning algorithm without clarifying whether or not that algorithm deserves the label "compositional". Our approach has been not to rely on particular mechanisms but rather to clarify identity criteria of meaning (such as alphabetic innocence) and see how much follows from them.