

**Anthony R. Davis**, *Linking by types in the hierarchical lexicon* (Studies in Constraint-Based Lexicalism). Stanford, CA: CSLI Publications, 2001. Pp. viii + 312.

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The goal of this book, as stated in (13),

is to show that a nonprocedural, monotonic, and constraint-based account of linking can be developed within the framework of a constraint-based, lexicalist theory of grammar such as Head-Driven Phrase Structure Grammar (HPSG).

LINKING is understood to mean ‘the mapping between the semantic roles and syntactic arguments of their predicators’ (1). The book aims to characterize the regularities in this mapping and to formalize them within the framework of HPSG as constraints on lexical entries classified in a hierarchical lexicon.

The model proposed in this book owes a lot to Dowty’s (1991) work on proto-roles, but, rather than assuming that linking is a direct correspondence between semantic (or conceptual) categories and syntactic functions, Davis proposes that this linking is mediated by a distinct level of representation called ‘lexical semantic relations’. Thus, in Davis’s proposal, linking really involves two mappings: (a) the mapping between the non-

linguistic level of representation at which entailments hold, called ‘situation type’, and the linguistic level of lexical semantic relations and (b) the mapping between this level and syntactic subcategorization. At the level of lexical semantic relations, arguments are represented as the values of attributes such ACT, UND, SOA, etc. On the semantic side, each of these attributes (proto-role attributes) is associated with a set of entailments (proto-role entailments) so that the corresponding participant, denoted by the value of the attribute, is assumed to bear one of the associated entailments. On the syntactic side, proto-role attributes are mapped onto syntactic arguments (subject, object, etc.) by a set of constraints.

One of the most salient features of Davis’s proposal is the postulation of the level of lexical semantic relations (LSR), admittedly not a purely semantic representation, but a level at the syntax–semantics interface (151). The information in the LSR is restricted to those elements of meaning pertaining to the syntactic behaviour of predicators—that is, their linking and diathesis properties. However, Davis includes much more information in the LSR than is actually used in predicting syntactic behaviour. The LSR contains a large variety of attributes (ACT, UND, SOA, GRND, IMP-ON, PART, INF, POSSD), but the constraints relating LSR to syntactic subcategorization merely appeal to the distinction between actors, represented by the attribute ACT, and non-actors, represented by all other attributes. The linking theory makes use of only two concepts at the LSR: (1) the distinction between

actor and non-actor, and (2) relative level of embeddedness. This is seen in the relevant constraints: *Actor Priority* requires an actor to link to a more prominent (or less oblique) syntactic argument than a non-actor, and *Top-level Priority* requires at least one top-level role to link to a more prominent syntactic argument than all embedded roles.

If the LSR were stripped of all irrelevant features (i.e., features not used by the linking constraints), what we would be left with is a partial hierarchical ordering of roles classified as actors and non-actors. This would be strikingly similar to many people's conception of argument structure. Argument structure is generally taken to be an interface level between the semantics and syntax of predicators that represents the minimal information needed to characterize the syntactic dependents of a predicator (such as a verb). (See Bresnan 2001 as an example of this conception.) For example, it is the level at which the distinction between unaccusative and unergative verbs is represented. In Davis's model, this distinction is captured at LSR: the single argument of an unergative is a top-level actor, whereas the single argument of an unaccusative is a top-level non-actor (or UND). Once it is clear that Davis's LSR corresponds conceptually to what other people call argument structure, we see, for example, that the treatment given in this work to valence-reducing reflexives, where two roles at LSR map onto one single syntactic argument (165), is very similar to the treatment proposed in

Alsina (1996), where two arguments at argument structure map onto one single syntactic function.

The fact that Davis does not use the name ‘argument structure’ for his LSR and does not bring out the correspondence between these two terms obscures the similarities and differences between his proposal and others. An unfortunate consequence of this terminological choice is that it makes it more difficult for researchers working in a different framework to incorporate Davis’s undoubtedly valuable contributions into their own work.

We may ask why Davis rejects the name ‘argument structure’ in favour of ‘Lexical Semantic Relation’. This level is evidently not a semantic representation, but a syntactic representation that is strongly constrained by semantic information. The attribute ACT, for instance, is no more semantic than the notion of external argument used in other frameworks. These notions may be semantically constrained, but that doesn’t make them semantic. A likely reason for not adopting the term ‘argument structure’ for this syntax–semantics interface level is that the term is already taken up, abbreviated as ARG-ST, in the version of HPSG used in Davis (2001) for one of the features that encodes the syntactic subcategorization or valence of predicates. In fact, the syntactic subcategorization of predicates (the information about the syntactic functions they take) is decomposed into two sets of features: the syntactic arguments represented at ARG-ST in an order that denotes relative obliqueness are further classified as the value of the

features SUBJ and COMPS. If the LSR were explicitly recognized as a syntactic level of representation, the way argument structure generally is, it would become apparent that there is considerable overlap and redundancy between the LSR, ARG-ST and the features SUBJ and COMPS.

The book critically discusses alternative approaches to linking, particularly those based on thematic roles as primitive elements and then goes on to propose a new theory of linking within the framework of HPSG that makes crucial use of the notion of entailment. The theory is applied to phenomena involving subcategorization alternations, such as the locative alternation, causative formation, the dative alternation and passivization, and proposes a treatment of PP complements. This book has a lot to offer to linguists interested in the problem of linking and, although the theory is presented within a particular formal framework, its insights are readily transferable to other theoretical approaches.

## REFERENCES

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- Bresnan, J. (2001). *Lexical-functional syntax*. Oxford: Blackwell.
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