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Eric Reuland. 2011. *Anaphora and language design*. Cambridge, MA: MIT Press. Pp. 447. US \$35.00 (softcover).

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Anaphora and language design presents a novel approach to the theory of binding and anaphoric relations that govern pronouns—pronominals such as *her*, and anaphors such as *herself*. The book has two goals. The first is to substitute Canonical Binding Theory (CBT) with a derivational theory of anaphora, based on how chain formation and lexical properties of anaphors interact. The second goal is to offer a truly minimalist, derivational theory of anaphora. The book achieves these goals in an elegant and empirically precise way. Therefore, it stands as a must-read for scholars interested in anaphora, regardless of their theoretical background. Below I summarize the contents of the book.

Chapter 1 offers an introduction to the key topics and notions discussed in the book, followed by an outline of the following chapters. The chapter begins by discussing how CBT fails to capture pronoun data in English, Frisian, and Icelandic. For instance, condition A (“anaphors must be bound in the local domain” [Chomsky 1981:PA 61]) fails to distinguish between simple, SE-type, and complex, SELF-type, anaphors in Frisian (e.g., *zich* vs. *zichzelf*), and their licensing patterns. This calls for an alternative solution, whose key notions and desiderata are sketched out in the remainder of the chapter. The pre-theoretic intuition behind this solution is simple. Anaphors carry features that “match” or, more accurately, agree with those of the noun phrases that precede them. This agreement mechanism allows us to establish a syntactic “connection” or chain, which in turn licenses an anaphoric (semantic) relation between the pronominal element and the noun phrase.

Chapter 2 discusses the basic syntactic principles according to which anaphoric relations (“binding”) are established. First, a distinction between Narrow Syntax and Logical Syntax is introduced. Narrow Syntax amounts to iterated applications of the *Merge* and *Agree* operations and Logical Syntax to computing and establishing structural relations (such as binding) among constituents. Anaphoric relations are licensed in A(argument)-binding contexts, syntactic contexts in which the related noun phrases are arguments of a predicate.

Chapter 3 analyses the factors that play a role in binding: the lexical make-up of pronouns and their role in Chain formation. The morpho-syntactic properties of anaphors are discussed in detail. SE anaphors usually lack grammatical features (e.g., gender, number), unlike the typically feature-rich SELF anaphors. When distinct anaphors enter into syntactic computations, their features (or lack thereof) may license the formation of “syntactic chains”, structural relations among noun phrases. Hence, SELF anaphors (e.g., *herself*) establish a connection with previous noun phrases by “repeating” grammatical information (e.g., gender). Chain formation and specific features of lexical items, as general principles of grammar, are shown to capture the anaphor data, via their principled interaction.

Chapter 4 offers a brief analysis of economy conditions in processing. Two key principles are put forward. First, anaphoric relations should override logophoric (i.e.,

discourse-bound) relations. Anaphoric relations locally resolve the interpretive status of pronouns, unlike the open logophoric readings that must probe “beyond” the sentence. Second, when an ambiguity is resolved, the grammar cannot re-introduce discarded interpretations. So, if *herself* is anaphorically related to *the girl*, no logophoric interpretation of this anaphora can be “snuck in”, in further discourse.

Chapters 5 and 6 discuss how chain formation, combined with the Agree operation, can account for the anaphoric relations that emerge between anaphors and binders. These chapters analyse a rich set of data, ranging from various types of pronominals, to anaphors embedded in subjunctive contexts. The chapters also offer an elaborate discussion on how conditions A and B can be derived as the result of SE and SELF anaphors denoting operations on argument structure. Anaphors, in their role as reflexive pronouns, grant that the identity of the two underlying variables does not render them indistinguishable, for binding purposes. In other words, in a sentence such as *The girl washes herself*, the morpheme *-self* in *herself* grants that the verb *washes* can distinguish between binder and bindee. Even if they denote the same individual, they are identified via different semantic “guises” or roles (informally, “washing agent” and “washed self”). This approach predicts that more fine-grained phenomena can be found. One example is the possibility of establishing an anaphoric relation between an individual and one of his defining properties, as in the sentence *Mario hated his former self*. In this case, binder (*his former self*) and bindee (*Mario*) can denote the same individual — Mario. However, merge of the “modified” SELF anaphor *his former self* allows us to distinguish the two almost identical entities: Mario and a temporally antecedent version of himself.

Chapters 7 and 8 investigate the anaphoric patterns of languages such as German, Dutch, Icelandic, and several others. These chapters show how this novel theory can account for and *predict* the licensing patterns discussed in this and the previous chapters. In doing so, Reuland offers robust evidence that his theory is a vast improvement over the CBT account.

Chapter 9 offers a general summary of this new approach, and discusses why the proposal put forward has a wider empirical import than CBT and other more recent proposals on anaphors, syntactic and semantic alike.

In what follows, I review the book more critically.

The strength of the proposal lies in giving a very precise formulation of one simple, pre-theoretical intuition: pronouns can, or must, enter into anaphoric relations as a consequence of how their lexical properties interact in a syntactic (derivational) context. Take a sentence such as *The girl washes herself*, and its corresponding syntactic derivation. The verb *washes* merges with the argument NPs *the girl* and *herself* in a piece-meal fashion. In this syntactic context, the anaphora *herself* matches the grammatical (abstract) features of *the girl*. Therefore, an anaphoric relation is licensed. No binding conditions are necessary as general grammar principles suffice to explain these data. As the book discusses in extensive detail, this simple and yet powerful principle can easily account for a much wider set of data than CBT and other theories can, and it does so in a principled way. Furthermore, the author carefully guides the reader through the wealth of data and theoretical points, always explaining explicitly how the theory can capture the data. As the author illustrates, this approach

can be easily extended to less well-documented languages (e.g., Georgian, Bahasa Indonesian), without expanding the theoretical apparatus in any significant way

Overall, the proposed system can successfully predict cross-linguistic data that are problematic for other theories and it does so in a minimalist way, as promised at the outset. One may thus consider the book as a substantial improvement on at least two fronts. First, it enhances our understanding of anaphoric relations and their morpho-syntactic and semantic properties. Second, from a methodological perspective, the book shows that minimalist analyses are possible and indeed preferable over GB-style ones, although they may require a more meticulous analysis of the data. Some aspects of the proposal, however, invite reflections on whether this minimalist approach has been pushed to its maximal consequences. I discuss, in a purely speculative manner, two cases below.

First, this proposal postulates a distinction between a derivational level of Narrow Syntax, and a “relational” level of Logical Syntax. An obvious question, given the minimalist perspective, is whether such a distinction is dispensable, so that we may instead have one unified syntactic “engine”. One option could consist of integrating the theory with a more fine-grained approach to syntactic categories and structures. Examples include notions from categorial grammar, or other frameworks that look at syntactic structure in a principled and abstract way, e.g., Lexical Syntax (see, for example, Steedman 2012, Hale and Keyser 2002). In these frameworks, one can explicitly represent a certain “type” of constituent, e.g., a head, as able to license an anaphoric relation, once this constituent merges with two argument-type constituents. Thus, the complex internal structure of anaphora and verbs, represented as syntactic types, may determine how Agree relations are established. In this way, one syntactic engine could perhaps offer the same explanatory adequacy of our current two engines.

Second, the proposal suggests that Jacobson’s (1999) “variable-free semantics”, or at least closely related variants, may be a natural semantic match. One open question, however, is whether other semantic theories may be integrated within this framework, especially those focusing on anaphora. An example could be Discourse Representation Theory (DRT), at times considered as a more empirically adequate alternative to CBT (e.g., Levinson 2000). Standard DRT employs grammar principles for the processing of anaphoric relations that closely resemble the ones found in the proposal (i.e., Merge, “referent identity”; see Kamp and Reyle 1993, ch. 1). Therefore, one may speculate that DRT could also offer a semantic counterpart that can capture intra- and inter-sentential phenomena under one theoretical apparatus. This could hold as long as syntactic considerations could be extended to the discourse level (e.g., A-binding conditions). Far-fetched speculations aside, the book offers a theoretical apparatus that will certainly influence our thinking of anaphors, and grammatical processes, for the foreseeable future. As such, it represents a crucial reading in this area.

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