Acuña-Fariña, C. (2023). *Syntactic Processing: An Overview*. London and New York: Routledge.

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When I started reading this book, I immediately found myself immersed in it. I am confident that every reader interested in cognition, especially in language processing, will experience the same feeling. The reading is extremely easy and fascinating, which is not common when discussing such an abstract topic like grammar. This is because Acuña-Fariña (2023) approaches the topic from different angles, acting as a linguist, a psycholinguist, and a captivating teacher. He encourages the reader to question and critically reflect on the nature of grammar.

Throughout the book, readers will find numerous examples that enable them to think about the way researchers design clever experiments to test different theories, and also to think theoretically. In other words, the author has integrated the best aspects of various approaches to grammar in this work. His vast knowledge of language processing—in general—and syntactic processing—in particular—is evident in every chapter that follows the Introduction, in which he discusses the most renowned theories on: a) the way humans deal with structural ambiguities, specifically with relative clause (RC) adjunction ambiguity (Chapter 2); b) agreement (Chapter 3); c) gap filling (Chapter 4); and, d) parsers and grammars (Chapter 5), as well as about the empirical evidence that supports and challenges these theories. The inveterate battle between lexicalists and syntacticians is here considered and analysed in a brilliant way in light of current theoretical and connectionist models of language and mind (Joanisse & McClelland, 2015). Indeed, the question regarding the general dynamics of the form encapsulation during syntactic processing vs. porosity—interference of different sources of information coming from the lexicon and its interaction with syntax—is still debated in the literature (see for instance Ferreira & Nye, 2018; Soares, Oliveira, Ferreira, Comesaña, Macedo, Ferré, Acuña-Fariña, Hernández-Cabrera & Fraga, 2019). The author provides an exhaustive review of behavioural, eye-tracking, and electrophysiological studies that provide valuable information on the track course of cognitive operations conducted by the parser which align well with the knowledge of grammatical constraints.

It is also important to highlight the suggestive notes and reflections introduced by the author in every chapter regarding the issues that have yet to be explored in the literature, which fuel researchers' eagerness to examine them. For instance, in Chapter 2, when the author reviews the literature on how structural ambiguities are resolved in different languages, with particular attention to relative clauses with double nominal antecedents, e.g. (1) *Someone shot*

the servant of the actress who was on the balcony, he claims that the relative weight of syntactic and lexical information in processing ambiguous sentences may differ across languages, this issue calls for further attention. This is because empirical evidence shows that the subject of the relative clause (*the servant* or *the actress*) is determined by formal, conceptual, and even prosodic properties—without neglecting the role that the statistical prevalence of alternatives plays in disambiguation.

In Chapter 3, another fascinating, yet complex, area of grammar is examined, the one related with agreement (a matter of sheer form co-variance). Considering the numerous factors at play during the establishment of agreement as well as the huge variation of agreement computation that exists across languages—ranging from languages that encode a few categories of person, number, and gender to languages that encode more than ten—the idea that a single mechanism may account for it seems far-fetched. This leads the author to reflect upon its nature and cognitive value or functionality. He presents many instances, both in production and comprehension, in which semantics interferes with form, leading to a variety of errors that are not restricted to learners of a second language (e.g., errors of agreement attraction such as (2) *The illiteracy level of our children are* [instead of *is*] *appalling*). Yet, the larger semantic interferences are, the weaker is the morphology, especially in production. In Acuña-Fariña´s own words (2023, 71), "both the utility of agreement systems, their extreme variation across the languages of the world and the complex interplay between form harmony and semantic interference make agreement an almost perfect illustration of the complex system we call grammar".

In Chapter 4, the set of operations conducted by the parser to deal with elided—gap—materials, (e.g., (3) *Tom came here after* [gap] *visiting his son*), is fully discussed. This is a very interesting phenomenon which occurs not infrequently in our ordinary language use for the sake of economy and movement derived from thematic needs. The author's review of this phenomenon is well-grounded, considering studies with languages that follow a *canonical* vs. *non-canonical* word order. Based on solid evidence, he states that our parsing system uses proactiveness and prediction to anticipate needs instead of waiting for solid information. Also, and considering differences across languages, the author is convincing in holding that the processing system uses the language type template (e.g., SVO in most romance languages) to navigate dependencies and penalize when deviations are found. This is of great interest for students and researchers who are trying to determine if there are any universals in grammar. The author considers two main options to explain how the human parser system fills the gap: a) locality/recency principles; and, b) lexical information. The available evidence shows that lexical information is always used to fill the gaps if it is reliable and readily available.

In Chapter 5, the author accurately reflects on a long-standing debate with a clear philosophical accent, that is, the relation between parsers—performance—and grammars—competence). This chapter grabbed my attention the most, probably because I have been reflecting on it since I was an undergraduate student. Indeed, I never believed in the idea of two different systems—clearly separated from each other—namely, the purely linguistic vs. the implementational, because of the highly interconnected nature of the mind/brain. However, beliefs are just beliefs that should guide observations of the problem and propose falsifiable statements, using Popperian terms. This is what researchers have struggled to do since Chomsky proposed the idea of syntactic autonomy. As Acuña-Fariña states—and I totally agree with him—instead of distinguishing two different systems or stages, it is better to think of one system with two streams—syntactic computations and algorithmic procedures vs. heuristics procedures—that, although entailing a parallel processing, it also enables that the sloppy heuristic can be faster and resorted first if there is a shortcut available. The shortcut depends on the different sources of information available at a given point of time.

In summary, once the reader has reached the end of this well-grounded and well-thought review on syntactic processing, they will realize that there is no integrative theory of grammar that is able to account for the amount of evidence collected thus far after analysing very distinct yet related phenomena, such as the resolution of structural ambiguities, the establishment of agreement, gap-filling, and the relationship between parsers and grammars. This is because different sources of information—syntactic, lexico-semantic, pragmatic, prosodic—interact during language processing. The pervasive question now is when and how these different sources of information come into play to build the linguistic structure (which is definitely not just syntax) as a function of language idiosyncrasies.

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