

Book Review

Adele E. Goldberg, *Explain me this: Creativity, competition, and the partial productivity of constructions*, 2019. Princeton: Princeton University Press. pp. xii + 195, 29.95\$ / £24.00. ISBN 9780691174266.

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Adele Goldberg's *Explain me this* is a sneaky little book. It modestly presents itself as an accessible introduction to how languages are learned and used in eight bite-sized chapters, but in reality these chapters reveal a sophisticated vision on the psychology of language that challenges much of mainstream linguistics. That vision centers around the hypothesis that all linguistic knowledge can be modelled as learned pairings of form and function, called 'constructions'. The book's playful title refers to a puzzle concerning constructions, which sets the reader on a journey for a solution. Along the road, Goldberg manages to guide her readers through a wide range of issues in a way that caters for both the uninitiated student and the seasoned language professional.

The explain-me-this puzzle is the following. On the one hand, language users often do not mind stretching the conventions of their language and producing utterances such as example (1) below (p. 2). Here, the verb *bust* is not used in its usual 'my-flat-got-busted-by-the-police' sense. Instead, it occurs in a Double Object construction that is typically associated with literal or metaphorical transfer, as in *give me a pen* or *tell me a story*. On the other hand, those same language users can be picky about when such creative license is acceptable, as shown in example (2) (p. 3). Utterances like these do occur, but only sporadically, and native speakers typically find that there is something a little 'off' about them.

(1) "Hey man, *bust me some fries*."

(2) ?She explained him the story.

Chapter 1 introduces this paradox of 'partial productivity' and presents the following key assumptions of the book (quoted from p. 6; emphasis in the original):

- Speakers balance the need to be **Expressive** and **Efficient** while conforming to the conventions of their speech communities.

- Our **M**emory is vast but imperfect: memory traces are retained but partially abstract (“lossy”).
- Lossy memories are aligned when they share relevant aspects of form and function, resulting in overlapping, emergent clusters of representations: **C**onstrutions.
- **N**ew information is related to old information, resulting in a rich network of constructions.
- During production, multiple constructions are activated and **C**ompete with one another to express our intended message.
- During comprehension, mismatches between what is expected and what is witnessed fine-tune our network of learned constructions via **E**rror-driven learning.

The letters in boldface together spell EEMCNCE but for pronunciation’s sake, Goldberg reorders them as the ‘CENCE ME’ principles (pronounced as *sense me*). These principles emphasize the importance of communication and cognitive processing for our understanding of language. The CENCE ME principles are also revealing for the evolution of Goldberg’s research ever since she first struck a chord with the cognitive-functional linguistics community with her (1995) book. While she already embraced a usage-based view on language in that book (Barlow and Kemmer 2000), she had not explored the consequences of this view to the same extent as she does in *Explain me this*. The most important one is that the usage-based approach radically shifts the perspective of linguistics. Traditionally, linguists abstract away from differences between individual language users and work on an ‘aggregate’ description of the community language. Usage-based linguists change that perspective to individual language users and to how they have to muster all of their cognitive processes and past experiences in order to engage in successful linguistic interactions. This means that the Saussurean notion of synchronic linguistics cannot be maintained because language is treated “as a real-time, social phenomenon, and (...) therefore temporal; its structure is always deferred, always in a process but never arriving, and therefore emergent” (Hopper 1987: 141).

With these principles in mind, Chapter 2, “Word meanings”, presents a first piece of the puzzle. Goldberg argues, in line with cognitive semantics, that the meanings of words comprise incredibly rich structures that partially abstract away from experienced, situated interactions. The first encounter of a word may already leave a memory trace with rich contextual information, which then gets reinforced and updated through successive encounters. Instead of maintaining a single sense for a word, different encounters lead to a cluster of conventional

and related senses in a hyperdimensional conceptual space. For example, *to fire a gun* means the quick, brutal and potentially lethal triggering of a bullet, whereas *to fire someone* retains the sudden and brutal consequences for the person who lost their job while not sharing other aspects. The chapter also deals with the question how children may retreat from the overgeneralization of a word, and argues that words are in ‘competition’ with each other for covering a particular sense. Overall, the chapter does a good job at introducing the reader to the literature on word meanings and explaining the complexities that must be taken into account for solving the explain-me-this puzzle.

Chapter 3, “Constructions as invitations to form categories”, introduces the reader to constructions that go beyond the level of single words, ranging from highly idiomatic expressions to more abstract argument structure constructions. Just like words, such constructions are learned pairings of form and function. One of the main appeals of construction grammar is that all linguistic information can be represented in the same way, so no sharp distinction is necessary between the lexicon and the grammar on the one hand, and between a core inventory and a periphery of exceptions on the other. The chapter focuses on one type of constructions: Argument Structure constructions, which are conventionalized patterns for expressing ‘who did what to whom’ in a sentence. Instead of offering a general summary, Goldberg illustrates all of the key aspects of such patterns through the Double Object construction. Although she apologizes for choosing a case study that has already been extensively investigated, calling the Double Object construction the “fruit fly” of language (p. 29), I believe she made the right call: close scrutiny shows just how much subtle distinctions play a role in explaining the construction’s distribution, and the evidence may be an eye-opener for readers who have only encountered textbooks that exclusively focus on the syntactic properties of grammar. The focus on one type of construction nevertheless comes with one disadvantage: while readers who are already familiar with Goldberg’s research on constructions can safely skim through this chapter, some students might need some supplementary reading materials for properly contextualizing this work. The Double Object construction, as mentioned before, expresses a cluster of related senses concerning transfer, such as ‘x causes y to receive z’ (as in *she gave her daughter a present*) or ‘x intends y to receive z’ (as in *he baked her a cake*). These meanings are mapped onto a syntactic pattern that comprises a subject, a verb and two objects. Besides information structure and social context, the construction also turns out to be sensitive to phonological patterns, preferring Germanic sounding verbs (*she told me a story*) over Latinate sounding verbs (*?She explained me a story*). Goldberg then ends the chapter with an overview of dialectal and cross-

linguistic variation of argument structure constructions, showing that children indeed need to learn a great deal about those patterns.

The book really kicks into gear with Chapter 4, “Creativity: Coverage is key”. Now that the previous chapters have established how both lexical (words) and grammatical constructions are clusters of conventional and related senses, Goldberg turns to the question of how all of these constructions can be combined to form novel expressions. Rather than defining the combinatorial potential of constructions in terms of strong syntactic constraints, as is standard practice in mainstream linguistics, she argues that such combinations rely on the nature of our (lossy) memory. There is a lot to unpack in that claim, but Goldberg does a remarkable job at doing so without compromising the book’s accessibility, except for perhaps Section 4.8, which requires some background knowledge about Bayesian modeling.

More specifically, constructions are free to combine with each other as long as the expressions that they license “comfortably fit” with our previous experiences (p. 51). To help the reader to understand what that means, Goldberg presents a short transcript of an interview with the American comedian and first-responders’ activist Jon Stewart (p. 53). Just like other native speakers of English, Stewart uses a lot of ready-made chunks and phrases (or ‘lexically specified constructions’) in his answer, such as the sentence in example (3) below. Goldberg then provides an alternative for Stewart’s response, such as example (4), that technically obeys all of the rules of English syntax but still feels alien to native speakers because it lacks those typical read-made phrases.

- (3) And, *you know*, “I’m gonna *Beat Your Ass*” or *whatever they’re calling them these days* is *mind-boggling*.
- (4) And *you are aware*, “*You will be Defeated*” or *whichever names they are currently labeling them* is *upsetting*.

I highly recommend readers to search for the interview online (the keywords *Jon Stewart crossfire* give you an immediate hit on YouTube) because it only strengthens Goldberg’s argument that the alternative phrasing would not only be less funny, it would also sound less native-speaker-like. The Stewart interview illustrates how much of language use involves the recycling of previously stored exemplars. These exemplars, again, form clusters in a hyperdimensional conceptual space. The acceptability of a novel expression depends on how close they fit within those clusters. And it is here that the chapter becomes a bit more technical: what it means to ‘fit’ within those clusters is defined as ‘coverage’. You can think of each cluster of exemplars as occupying a region in a space

based on type frequency, semantic and phonological variability, and similarity. For instance, a small region may be occupied by the exemplars *hello love* and *hello dear friend*. Moreover, the language user can learn from induction that those exemplars have a particular productive use (called ‘coinage’), which here is something like *hello X*. When a novel expression enters the space, the language user needs to classify it in terms of past experiences. They can do so by making up an ad-hoc category that comprises the new expression and the most closely related cluster of attested exemplars. If that ad-hoc category is densely populated with exemplars – it has strong coverage – and if the novel expression respects the typical pattern of coinage of those exemplars, it will be experienced as highly acceptable to the language user. This makes the expression *hello everyone* highly acceptable even if the language user would have never heard it before.

Chapter 5, “Competition. Statistical preemption”, presents a second key factor in determining acceptability: ‘competition’. Constructions compete with each other for expressing similar meanings. This additional factor is necessary because the notion of coverage does not fully account for the explain-me-this puzzle: an expression such as *explain me the solution* respects the typical pattern of coinage of the Double Object construction, and every speaker of English definitely has several exemplars stored in memory. The reason why *explain me this* nevertheless sounds odd to native speakers is due to ‘competition in context’, which Goldberg operationalizes as ‘statistical preemption’. The chapter is arguably the best one of the book because now all pieces of the puzzle finally fall in place. Even for readers who are already familiar with Goldberg’s work on statistical preemption, the chapter has plenty to offer because it unites two key ideas – coverage and competition – in a more encompassing way than any of her previous articles have done before. In a nutshell, statistical preemption means that if language users observe an expression, they will strengthen the connection between the constructions that licensed the expression. At the same time, however, the connections of competing alternatives are diminished. As a side-effect, speakers will judge novel expressions as less acceptable if they feel that there already exists a conventional way of expressing a certain meaning. Equally important is the language user’s confidence about statistical preemption. For example, if a language user exclusively observes the verb *explain* in combination with the Prepositional Object construction (such as *She explained the solution to him*), the probability that this combination is appropriate remains stable over time. However, the language user’s confidence that these probabilities are reliable should increase with every observation.

Most of Chapter 5 is dedicated to psycholinguistic experiments that Goldberg and her colleagues have conducted on argument structure

constructions and adjectives. For instance, the so-called *a*-adjectives such as *afraid* and *asleep* tend to be avoided in prenominal positions, such as *?the asleep child* or *?the afraid man*. Besides yielding robust results, these experiments also have an educational value for the reader because they have been designed with great care for ruling out alternative explanations. One such explanation is ‘negative entrenchment’, which essentially means that speakers prefer to use combinations of constructions that they have observed most frequently. The explain-me-this puzzle is then simply a side-effect of always choosing the most frequent combination. Goldberg however convincingly argues that negative entrenchment makes the wrong predictions. For instance, her famous use of the verb *sneeze* in a Caused Motion construction, such as *Pat sneezed the napkin off the table*, would be considered odd because *sneeze* hardly occurs outside of the Intransitive construction. Yet, speakers of English have no qualms with its use as a Caused-Motion verb.

Chapter 6, “Age and accessibility effects”, fleshes out the framework that Goldberg has established in previous chapters. The chapter focuses on the acquisition of constructions by children and by adult second-language learners, and presents a new paradox: studies have shown that children are initially less creative than adult speakers, yet adult learners have more difficulties with learning the subtle distinctions of the target language. Goldberg suggests that the learning situation for children and adults is different. Children have to start from scratch, so they first need to figure out which dimensions are relevant. Ultimately, they do manage to learn the subtle distinctions of their language as soon as they have acquired the relevant clusters of exemplars. Adult learners face a different problem: not only do they receive less input than children do, they also need to inhibit the habits that they have acquired for processing their first language. As a result, most second language learners will continue to produce utterances that make sense from their perspective, but which may sound odd or even wrong to native speakers of the target language.

The last two chapters wrap everything up nicely. Chapter 7, “The roads not taken”, almost reads like a conversation between Goldberg and the devil’s advocate. More specifically, Goldberg discusses eight possible alternatives or objections to the roads she has chosen throughout the book, and argues why she did not go down those routes. Goldberg treats each of the alternatives with respect, and thereby avoids the trap of making strawmen of the alternative proposals. Chapter 8, “Where we are and what lies ahead”, offers a brief summary of the journey and makes the plea for more collaboration and dialogue between different disciplines, and for more attention to the study of information structure and semantics.

Goldberg ends her book with the same modesty as she started it, writing that it “is only intended to whet the appetite of those who are eager for an approach to language that is responsive to what we know about memory, categorization, and learning” (p. 146). This mission is more than accomplished, as I found myself often putting down the book, eager to try out new ideas inspired by what I just read. Goldberg’s writing style is clear, concise and entertaining at the same time, which makes for a deceptively easy read. Underneath, however, Goldberg presents a thought-provoking and grand vision on language that not only challenges much of the received wisdom of our field without ever becoming polemic, but which also has the potential of putting linguistics back at the center of cognitive science. *Explain me this* is an important book that deserves the attention of every language psychologist, and a spot on the nightstand of every linguist.

References

- Barlow, Michael & Suzanne Kemmer (eds.). 2000. *Usage-based models of language*. Stanford: CSLI Publications.
- Goldberg, Adele E. 1995. *Constructions: A Construction Grammar approach to argument structure*. Chicago: Chicago University Press.
- Hopper, Paul. 1987. Emergent grammar. *Berkeley Linguistics Society (BLS)* 13. 139–157.