

Review

Learnability and Cognition

By STEVEN PINKER. Cambridge, MA.: MIT Press, 1989. Pp. xv + 411.

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The problem that Pinker is concerned with in this book is 'Baker's paradox'; this is very clearly presented in Chapter 1. In essence, given that (1) alternates with (2), the problem is how the child learns that (3) does not alternate with (4):

- (1) John told the news to Sam
- (2) John told Sam the news
- (3) John shouted the news to Sam
- (4) *John shouted Sam the news

The assumption throughout the discussion is that negative evidence, at least in the form of explicit instruction, is not available to the child; indeed when available, there is evidence that explicit instruction is not made use of. The other (non)-solution to the problem that is immediately refuted, both by diary and experimental studies, is that children are (lexically) conservative learners. In Pinker's words, then, 'the most elegant theory of how children solve Baker's paradox would be to discover some syntactic properties of verbs that perfectly predicts whether they enter into an alternation'.

The next crucial step in the discussion comes in Chapter 5. Here, after introducing conceptual structures, in essence along Jackendoff's lines, Pinker begins presenting his solution to the problem he has set himself. Consider dative alternations of the type in (1)–(2) above. If we translate Pinker's analysis into pure syntactic terms, (1) has a structure of the type in (5):

- (5) [_{IP} John [_{VP} told [the news [_{PP} to Sam]]]]

The relation of the subject *John* to *tell* in (5) does not deserve special comment; on the other hand *the news* is essentially the subject of a small clause of which we can take *to* to be the 'directional' predicate and *Sam* the object. As for (2), according to Pinker it is associated essentially with the representation in (6):

- (6) [_{IP} John [_{VP} told [Sam [_{NP} the news]]]]

In (6) the relation of *John* to *tell* remains unchanged and again *tell* takes a small clause complement. But the subject of the small clause is in this case *Sam* and the predicate *the news*, the relation between them being understood as one of 'possession'.

In fact, the aim of Pinker's work is to account not only for dative alternations, but for at least three other constructions that present an analogous challenge to language acquisition. The second one is the causative alternation involving pairs of the type in (7)–(8):

- (7) The box opened
(8) I opened the box.

This essentially involves the embedding of (7) under an abstract causative predicate to produce (8). The third alternation that Pinker seeks to account for is the locative alternation in (9)–(10):

- (9) Max sprayed paint onto the wall
(10) Max sprayed the wall with paint.

Extrapolating from Pinker's conceptual representations, (10) essentially involves a structure of the type in (11), where *paint* is the subject of a small clause with a directional predicate, *onto*, which takes *the wall* as its argument. This alternates with a structure of the type in (12), where *with paint* can essentially be thought of as an adjunct:

- (11) [_{IP} Max [_{VP} sprayed [paint [_{PP} onto the wall]]]]
(12) [_{IP} Max [[_{VP} sprayed the wall] with paint]]

Finally, the fourth alternation considered by Pinker is passive, as exemplified by familiar pairs of the type in (13)–(14):

- (13) John hit Mary
(14) Mary was hit (by John)

In essence (14) can be derived from (13) by promotion of the object in (13) to subject of the predicate *be* in (14).

Let us then return to the original problem why the dative alternation is possible with *tell* as in (1)–(2), but not with *shout*, as in (3)–(4). According

to Pinker, the two verbs differ at the conceptual level in that the latter but not the former includes a manner specification. Thus to shout is to tell shouting. Other cases of failed alternation can be told apart on similar, conceptual grounds. For instance, the locative alternation in (7)–(8) above contrasts with non-alternating cases of the type in (15)–(16):

- (15) Max poured paint onto the floor
- (16) *Max poured the floor with paint

The difference between the two verbs involved appears to be that in the case of *spray* 'force is imparted to a mass causing motion' while in the case of *pour* 'a mass is enabled to move' without the application of force 'via the force of gravity'. Numerous comparable examples are found throughout Pinker's discussion.

We are now in a position to proceed to the conclusion of Pinker's argument in Chapter 7. It is well-known, especially from Bowerman's studies, that the acquisition of argument structure alternations passes through three phases. The first phase is characterized by conservative usage, the second phase by overapplication of the alternation, and the third phase by the correction of such overgeneralizations. In practice, it is this latter step that is truly problematic. Baker's paradox can indeed be restated as the 'unlearning problem': what induces the passage from a more general to a more restrictive grammar, in the absence of negative evidence? The solution that Pinker proposes is in his own terms minimalist. On the one hand children share 'broad-range' rules with adults. On the other hand, they project 'narrow-range' rules from the conceptual structure of individual verbs. Thus 'children's overgeneralization errors are due either to the application of broad-range lexical rules or to systematic misconceptions about the meaning of a particular verb' (p. 292). Nothing is unlearned, rather narrow-range rules are introduced.

Pinker himself favourably compares his present solution to the problem to the one found in his *Language Learnability and Language Development* (Cambridge, MA.: Harvard University Press, 1984). There the proposal was that children start with purely syntactic rules, and that gradually they append semantic constraints on them. In the new systematization offered by Pinker in this book, both broad-range and narrow-range rules operate on conceptual representations. The main objection levelled against Pinker's (1984) approach was that it is not clear why children would strive to make their rules more complex. It seems to me that the same problem remains whether broad-range rules are syntactic or conceptually-based, since in its abstract form the problem applies to any narrowing of a (over)-general grammar, as Pinker must know. In fact, if I am not mistaken, Pinker's 'minimalist' solution is only viable by having recourse to (indirect) negative evidence. For, as far as I can see, narrow-range rules must be arrived at by making use of the absence of certain verbs from alternations in which they would otherwise be expected to participate.

Thus, while Pinker's main contention appears to be that the shift from a syntactic account of argument structure alternations to a lexico-semantic account is entirely crucial to a solution of the unlearning problem, this contention is in my view unmotivated. What is left in favor of non-syntactic broad and narrow range rules is the linguistic evidence. As far as broad-range rules are concerned, my own translation of Pinker's rules into purely syntactic ones illustrates the empirical equivalence of the two, except that syntactic ones are much simpler, reducing in transformational models of generative grammar just to Move α . Admittedly, this does not touch the argument for narrow-based rules; and as long as narrow-range rules are to be admitted and formulated in terms of conceptual representations, it could be argued that broad-range rules based on the same representations are at least as inexpensive as syntactic ones, thus depriving syntacticians of the crucial simplicity argument. Given that Pinker's volume presents itself as an acquisition, rather than a linguistic work, I am happy to leave the discussion open at this point; but I will repeat that the acquisitional evidence appears to me to be inconclusive.

Finally, Pinker's book is too slow-moving for my taste. It seems to me that his argument not only would have admitted of a monograph-length rather than a book-length exposition, but would have profited from it. Pinker's style is of course extremely readable, and the very detailed discussion may be otherwise useful, especially to those readers that seek some introduction to the problem of argument structure alternations in its psycholinguistic dimension. I recommend the volume to these readers, with the corrective of a few alternative solutions. For the specialist reader, this appears to be a valiant contribution to the debate, but not in any way, I believe, the last word on it.

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