THE NEW PSYCHOLOGY OF LANGUAGE

Cognitive and Functional Approaches to Language Structure

Edited by

Michael Tomasello
Max Planck Institute for Evolutionary Anthropology
Leipzig, Germany

LAWRENCE ERLBAUM ASSOCIATES, PUBLISHERS
1998 Mahwah, New Jersey London

Chapter 8

Patterns of Experience in Patterns of Language[1]

Adele E. Goldberg
University of Illinois, Urbana-Champaign

1. INTRODUCTION

It is often assumed that the general overall form and meaning of a sentence is determined by the main verb, because in simple cases, this does seem to be the case. For example in a sentence like (1), it is *give* that seems to be responsible for the fact that there are three arguments involved and it is *give* that seems to give the sentence its meaning of transfer from one animate being to another.

1. Pat gave Chris a book.

However, a careful look at other sentences with this double object form reveals that the form and the associated meaning are not naturally attributed to the main verb in all cases.

Notice that (2) entails that Pat intended to give Chris the cake. The sentence cannot be used if Pat baked the cake simply as a favor to Chris because Chris was too busy to do it.

2. Pat baked Chris a cake.

On the other hand, this latter interpretation is available for the paraphrase of (2) in (3):

3. Pat baked a cake for Chris (because Chris was out of the country).

The question arises, where does the semantics of intended transfer associated with (2) come from? It is not a necessary part of the meaning of *bake* (witness 3), and it is not associated with any of the noun phrases. One possibility is to allow the additional meaning component, the semantics of "someone (intending to) cause someone to receive something" to be attributed directly to the formal pattern, Subj V Obj Obj2 (see Goldberg, 1992, 1995).[2]

Recognizing that the formal pattern is itself imbued with meaning allows us to account for the following contrast in a straightforward way:

5. a. Pat sent a package to the boarder/the border.
   b. Pat sent the boarder/*the border a package. (Partee, 1965/1979, p. 60)

We can see from (5a) that *send* itself does not entail that the goal must be an animate, although such a constraint does hold of (5b). Instead of positing a special sense of *send* to account for (5b), we can assign the constraint that the goal be animate (a recipient) directly to the double object construction. There is no such constraint on the construction in (5a), so the paraphrased sentence allows the goal to be a nonanimate location in space.

To take one more example, *sneeze* is a textbook example of an intransitive verb (see 6a) and yet, it can appear transitively in (6b):

6. a. Pat sneezed.
   b. Pat sneezed the foam off the cappuccino. (Ahrens, 1995)

It is unnatural to assume that it is *sneeze* that is responsible for the fact that there are three syntactic complements involved in (6b) or for the fact that the sentence entails that someone caused something to move somewhere. In fact, *sneeze* can occur in several other patterns as well:

7. a. She sneezed a terrible sneeze. (cognate object construction)
   b. She sneezed her nose red. (the resultative construction)
   c. She sneezed her way to the emergency room. (the *way* construction)

If we wanted to retain the assumption that the main verb is responsible for the overall form and meaning of the sentence, we would need to posit special senses of *sneeze* to account for each of (7a–c) as well as for (6b).

Instead of positing a new verb sense whenever a new syntactic frame is available, it makes sense to associate some aspects of meaning directly to the formal pattern itself. This allows us to account for the full semantic interpretation without positing implausible and ad hoc verb senses (for additional arguments, see Goldberg, 1995).

In this view, each of these formal patterns and its associated meaning(s)[3] forms a *construction* of the language. The definition of a CONSTRUCTION is given below:

> C is a CONSTRUCTION iff$_{defn}$ C is a form–function pair, such that some aspect of the form or some aspect of the function is not strictly predictable from C's component parts.

Within the theory of construction grammar (also cognitive grammar, see Langacker, this volume), grammar consists of a network of interrelated constructions (see Fillmore & Kay, in press; Fillmore, Kay, & O'Connor, 1988). Both words and larger phrasal patterns are constructions in this technical sense: Both pair form with meaning or conditions of use. In this view, the syntax or grammar of a language is represented in the same general way as the words of the language, although there are clearly differences in internal complexity, degree of phonological specificity, and so on. The entire language is captured by an extended lexicon, or "constructicon."

2. PATTERNS OF EXPERIENCE IN PATTERNS OF LANGUAGE

Argument structure constructions are a special subclass of constructions that provide the basic means of clausal expression in a language. Examples of argument structure constructions in English are presented in Table 8.1.

Each of these argument structure constructions designates a basic pattern of experience, for example, someone causing someone to receive something (the double object construction), something causing something to move (the caused-motion construction), or an instigator causing something to change state (the resultative construction). We can form the following hypothesis:

> **Scene-encoding hypothesis:** Constructions that correspond to basic simple sentence types encode as their central senses, event types that are basic to human experience.

Languages are expected to draw on a finite set of possible event types, such as that of something causing a change of state or location, something

TABLE 8.1
English Argument Structure Constructions

Construction/Example	*Meaning*	*Form*
1. Double Object Pat faxed Bill the letter.	X causes Y to receive Z	Subj V Obj Obj2
2. Caused-Motion Pat sneezed the foam off the cappuccino.	X causes Y to move Z	Subj V Obj Obl
3. Resultative She kissed him unconscious.	X causes Y to become Z	Subj V Obj XCOMP
4. Intr. motion The fly buzzed into the room.	X moves Y	Subj V Obl
5. Transitive Pat cubed the meat.	X acts on Y	Subj V Obj
6. Possessive Sam landed/secured a good job.	X acquires/possesses Y	Subj V Obj

undergoing a change of state or location, someone experiencing something, something moving, something being in a state, someone possessing something, and so forth. These event types are quite abstract. We do not expect to find distinct basic sentence types that have semantics such as something turning blue, someone becoming upset, something turning over. For recent related views of argument structure, see Pinker (1994), Jackendoff (1995, in press), and Hovav and Levin (1996).

The constructions serve to carve up the world into discretely classified event types. Langacker (1991) argued that language in general is structured around certain *conceptual archetypes*:

> . . . certain recurrent and sharply differentiated aspects of our experience emerge as archetypes, which we normally use to structure our conceptions insofar as possible. Since language is a means by which we describe our experience, it is natural that such archetypes should be seized upon as the prototypical values of basic linguistic constructs. (pp. 294–295)

The scene-encoding hypothesis can be viewed as a special case of this claim.

Support for the hypothesis that the central senses of argument structure constructions designate scenes that are semantically privileged in being basic to human experience comes from certain language acquisition facts. In particular, verbs that lexically designate the semantics associated with argument structure constructions are learned early and used most frequently (Clark, 1978, 1993); also, certain grammatical markers are applied earliest to "prototypical" scenes (Slobin, 1985), i.e., scenes that are claimed to be associated with the central senses of constructions.

Clark (1978) observed that "general purpose" or "light" verbs such as *put, make, go, do,* and *get* are often among the first verbs to be used. These verbs designate meanings that are remarkably similar to the meanings associated with argument structure constructions. For example, *go* has the meaning associated with the intransitive motion construction; *put* has semantics very close to that of the caused-motion construction; *make* has the semantics associated with the resultative construction. *Do* corresponds to the meaning associated with the basic sense of the simple intransitive and/or simple transitive construction. *Get* may well code the semantics of yet another construction, that instantiated by verbs such as *receive, have, take.*

Clark cited other studies that showed that words corresponding to these concepts are among the first to be used cross-linguistically as well (e.g., Bowerman, 1973, for Finnish; Grégoire, 1937, for French; Park, 1977, for Korean; and Sanches, 1978, for Japanese). Children use these verbs with a general meaning close to that of adults.[4]

In addition to being learned early cross-linguistically, these verbs are also the most commonly used verbs in children's speech. Clark (1978) cited the raw tabulations of verbs used by four children whose mean length of utterance was 2.5, collected by Bloom, Miller, and Hood (1975), and Bloom and Lahey (1978). Table 8.3 gives the relative frequencies of the most commonly used verbs.

Notice that *go, put, get, do,* and *make* (and *sit*) are far more frequent than any other verbs. The meanings of these verbs correspond closely to the meanings of the argument structure constructions described earlier (cf. Table 8.2). The fact that these "light" verbs, which are drawn from a small set of semantic meanings cross-linguistically, are learned earliest and used most frequently is evidence that this small class of meanings is cognitively privileged.

Slobin (1985) observed that children's first use of certain grammatical marking is applied to "prototypical scenes":

> In Basic Child Grammar, the first Scenes to receive grammatical marking are "prototypical," in that they regularly occur as part of frequent and salient activities and perceptions, and thereby become organizing points for later elaboration . . . (p. 1175)

TABLE 8.2
Light Verbs and the Constructional Meanings They Correspond To

Verb	*Constructional Meaning*	*Construction*
put	X causes Y to move Z	Caused Motion
make	X causes Y to become Z	Resultative
go	X moves Y	Intr. motion
do	X acts on Y	Transitive
get	X acquires/possesses Y	Possessive

TABLE 8.3
Relative Frequencies of Early Verbs

Verb	*F*	*Verb*	*F*	*Verb*	*F*
go	417	read	86	draw	52
put	287	play	85	take	48
get	252	find	69	fall	30
do	169	fit	65	come	25
make	132	eat	60		
sit	129	fix	59		

Note. Adapted from Bloom, Miller, and Hood (1975). Reprinted by permission of the University of Minnesota Press.

He illustrated this claim by arguing that the grammatical marking of transitivity is first used to describe what he terms the "Manipulative Activity Scene." This scene corresponds to the experiential gestalt of a basic causal event in which an agent carries out a physical and perceptible change-of-state in a patient by means of direct manipulation.

That is, markers of transitivity, both object markers in accusative languages and subject markers in ergative languages, are first applied to the arguments of verbs involving direct physical action, e.g. *give, grab, take, hit,* and not on verbs such as *say, see, call out.* In Kaluli (Schieffelin, 1985), children do not overextend ergative inflection to the subjects of intransitive verbs, even when they have an active meaning, e.g. *run, jump.* Slobin thus concluded that children are not grammaticizing the notion of actor in general, but are grammatically marking manipulative activity scenes.

Whereas the transitive construction and others are later abstracted or extended to cover a wider range of meanings (see section 4), the initial meaning of the construction is a basic experiential gestalt. Thus, a basic pattern of experience is encoded in a basic pattern of the language.[5]

Verbs, on this view, are associated with richer encyclopedic meanings, and are not necessarily decomposable into abstract semantic structures of the same sort as are argument structure constructions (cf. Bolinger, 1965; Fillmore, 1975, 1976; Goldberg, 1995; Higginbotham, 1989; Lakoff, 1987; Langacker, 1987, for arguments that a richer semantics is required for lexical meaning).

3. THE ACQUISITION OF CONSTRUCTIONS

If it is correct that the basic syntactic frames of a language (its "subcategorization" frames) are associated directly with meanings, then what children learn when they learn the syntactic patterns of simple sentences is the particular way certain basic scenarios of human experience are paired with forms in their language.

More specifically, we might view the constructional semantics as emerging from an abstraction over the particular semantics of learned instances with particular verbs. That is, initial acquisition of syntactic patterns seems to be on a verb-by-verb basis (Akhtar, in press; Akhtar & Tomasello, in press; Bates & MacWhinney, 1987; Bowerman, 1982; MacWhinney, 1982; Schlesinger, 1977; Tomasello, 1992; Tomasello & Brooks, in press; see also Gropen, Epstein, & Schumacher, in press, for discussion of the somewhat more productive use of nouns). Children tend to conservatively produce the patterns they have heard.

At the same time, it is clear that children cannot continue to learn syntactic patterns on a verb-by-verb basis indefinitely or we might expect to find a language in which argument structures varied on a verb-by-verb basis in an unrestrained way. Because languages are in fact much more regular, having a few systematically related argument structure constructions, with semantically similar verbs showing a strong tendency to appear in the same argument structure constructions, it seems that learners must be attempting to categorize the instances they hear into patterns (Allen, 1997; Morris, 1998; Tomasello & Brooks, in press).

It is likely that this categorization is driven by an increase in vocabulary size. That is, in order to learn an ever-increasing vocabulary and associated syntactic patterns, it may be necessary to categorize individual instances into classes. This idea was supported by Bates and Goodman (1996) who argued that syntactic proficiency is strongly correlated with vocabulary size. In particular, they argued that the single best estimate of grammatical status at 28 months, which is when syntactic encoding becomes produced more regularly as measured by the MacArthur Communicative Development Inventory (CDI), is the total vocabulary size at 20 months, which is the heart of the vocabulary burst. In fact, Bates and Goodman showed that grammar and vocabulary stay tightly coupled across the 16–30 month range. This correlation would be expected if the increasing vocabulary size is in fact directly forcing certain syntactic generalizations.

On this view, the fact that children learn the light verbs so early (as discussed in the previous section) may play a direct role in the acquisition of argument structure constructions. In particular, if the child is categorizing learned instances into more abstract patterns, and is associating a semantic category with a particular formal pattern, it would be natural for the meaning of the most frequent and early verbs occurring in a particular pattern to form the prototype of the category. For example, if *put* is the most frequent verb associated with the syntactic pattern, Subj V Obj Obl, and is also learned very early, expressions with *put* could act as a center of gravity for other expressions having the same form. The end result of this categorization would be the direct association of the general meaning of *put*, "someone causes something to be moved somewhere" with the

formal pattern, giving rise to the "caused-motion" construction. The strong effect of early acquisition and frequency has been documented in connectionist net simulations (Elman, 1993; see also Allen, 1997, for connectionist modeling of argument structure constructions).[6]

3.1. A Look at "Syntactic Bootstrapping"

Gleitman and her colleagues proposed that formal patterns aid in the acquisition of verb meaning (Fisher, Hall, Rakowitz, & Gleitman, 1994; Gleitman, 1994; Landau & Gleitman, 1985; Naigles, 1990). They have termed this "syntactic bootstrapping." A question arises, if we assume that instances are required for acquisition of the construction, is it still possible that the construction is used as an aid to the interpretation of new verbs? Clearly it is possible. Once the constructional meaning has begun to emerge, it can in turn facilitate the acquisition of new verbs.

There is in fact experimental evidence that demonstrates that children pay attention to the grammatical elements of their language in order to figure out the meanings of expressions (Brown, 1957; Katz, Baker, & McNamara, 1974). Syntactic bootstrapping can be seen as an instance of this syntactic cueing, and it, too, has experimental support (Fisher et al., 1994; Naigles, 1990; Naigles, Gleitman, & Gleitman, 1993).

The strongest interpretation of the syntactic bootstrapping hypothesis would be that every syntactic frame in which a verb occurs directly reflects a particular component of the verb's meaning.[7] This would imply that verb meaning can be gleaned from the set of syntactic frames alone without additional context. Pinker (1989, 1994) argued against this position on theoretical grounds. He noted that an error would result if the child presumed that *float* had a motion component of meaning upon hearing (8), because *float* does not necessarily imply motion (see 9).

8. The bottle floated into the cave.
9. The bottle floated in the sink.

Taking our earlier example, *sneeze*, the learner would be misled if (s)he assumed upon hearing (6b) that this verb had a causal or a motion component to its meaning. In constructional terms, the verb need not directly encode or elaborate the meaning associated with the construction. Instead, a common option in English is for the verb to code the *means* of affecting the event associated with the construction. For example, floating is the means of motion in (8), and sneezing is the means of causing motion in (6b; see Goldberg, 1995, in press, for discussion). Thus, although the verb and constructional meaning are systematically related, the former is not necessarily merely an elaboration of the latter. Sethuraman, Goldberg,

and Goodman (1997) also provided experimental evidence against the strong interpretation of syntactic bootstrapping. We demonstrated that without the aid of context, children do not attempt to formulate a consistent meaning for a nonsense verb across syntactic frames.

A somewhat weaker interpretation of the claim that syntactic frames aid in the acquisition of verb meaning is that the formal patterns act as a sort of "zoom lens" in directing the listener's attention to certain aspects of the nonlinguistic context (Fisher et al., 1994; Gleitman, 1994). This implies that a single syntactic frame can provide important cues as to what aspect of the scene a verb refers to.

The notion of constructional meaning can make the nature of the zoom lens more precise. The formal patterns are associated with fairly specific meanings such as those given in Table 8.1. Given a nonlinguistic context, the construction can indicate what aspect of the context is being discussed. For example, using the double object pattern would indicate that a scene of transfer is being conveyed. Once the learner's attention is drawn to the relevant scene, the verb can be assumed to code the most salient action in that scene, for example, "kick." Note, then, that the action denoted by the verb does not itself necessarily correspond directly to the scene designated by the construction (e.g., "kicking" does not entail giving), but is only some action that is saliently and centrally involved in that scene. In fact, because the novel verb has a distinct form from the verbs the learner already knows, the learner is highly likely to associate a distinct meaning with it. This could actually bias the learner away from the meaning "give" simpliciter, because by hypothesis, the verb *give* has already been acquired by the time the child could use the construction as a zoom lens.

4. EXTENSIONS FROM THE BASIC PATTERNS

It is clear that we talk about many more abstract and complex things than the simple scenes mentioned in Table 8.1. This raises the question of how the meaning of basic sentence patterns of a language get extended so as to allow the full range of expressive power that we witness.

4.1. Constructional Polysemy

One dimension along which the construction's meaning can vary is that of its causal interpretation. Two examples are given below.

Caused-Motion Construction: Subj V Obj Obl

The Subj V Obj Obl pattern is used to imply a variety of meanings related to caused-motion. Each of the senses is listed below with an example illustrating that sense:

A. "X causes Y to move Z" (central sense).
Pat pushed the piano into the room.
B. Satisfaction conditions imply: "X causes Y to move Z."
Pat ordered him into the room.
C. "X enables Y to move Z."
Pat allowed Chris into the room.
D. "X causes Y not to move from Z."
Pat blocked Chris out of the room.
E. "X helps Y to move Z."
Pat assisted Chris into the room.

A strikingly similar range of meaning extensions appears with the double object pattern:

Double Object Construction: Subj V Obj Obj2

A′. "X causes Y to receive Z" (central sense).
Joe gave Sally the ball.
B′. Satisfaction conditions imply: "X causes Y to receive Z."
Joe promised Bob a car.
C′. "X enables Y to receive Z."
Joe permitted Chris an apple.
D′. "X causes Y not to receive Z."
Joe refused Bob a cookie.
E′. "X acts to cause Y to receive Z at some future point in time."
Joe bequeathed Bob a fortune.
F′. "X intends to cause Y to receive Z."
Joe baked Bob a cake.

Senses A and A′, B and B′, C and C′, and D and D′ are remarkably parallel, indicating that the range of extensions from the basic sense is not random. But notice the range of extensions is not exactly the same in both cases, because only the caused-motion construction has an extension based on assistance (E) and only the double object construction has an extension based on future consequences or intention (E′ & F′).

It is clear from these examples that the full interpretation of the sentence depends on both the construction's central sense and the meaning of the verb it combines with. There is a question as to whether the best way to describe these extensions involves *constructional polysemy* (Goldberg, 1995), whereby each construction is notated with the particular extensions it allows, or rather whether the final interpretation is a result of an on-the-fly combination of the verb's lexical meaning and the construction's meaning

(van der Leek, 1996). I prefer the former view, that it is a conventional fact about the construction that it allows the range of verb classes it does, for the following reason. Although the range of extensions is not random and is typically natural or "motivated," which extensions are conventional it is not strictly predictable, and must be recorded as part of our knowledge of the language. Consider, for example, sense F′ of the double object construction. Although the same extension of the ditransitive exists in some other languages, it does not exist in all. And in certain languages, the ditransitive form has a wider range of meaning than it does in English, including general benefaction (see Comrie, 1982; Polinsky, in press). It is also the case that although one can typically predict the resultant meaning of combining a particular verb class with the construction, it is not predictable that the verb class should be allowed to combine with the construction in the first place (see Goldberg, 1995; Pinker, 1989).

Novel expressions are normally only natural to the extent that they can be construed as falling into existing patterns. For example, consider the following novel attested uses of verbs in the double object construction:

10. a. "We will *overnight* you that package as soon as it comes in" (reported by Mark Turner, personal communication, December 4, 1994).
    b. "Her ex-husband pleaded guilty and *bargained* himself a reduced prison term" (*Los Angeles Times*, February 2, 1994).

Although the particular uses of these verbs are novel, the uses can be seen to fall into more general, well-established patterns. *Overnight* is used to stand metonymically for "sending mail that arrives the next day." This interpretation of *overnight* allows it to fall into the class of verbs of sending, a class that is frequently attested in the double object construction by *send, ship, mail, fax,* and *E-mail. Bargain* in (10b) is used as a verb of future having, a well-attested class including other verbs such as *bequeath, leave, will, guarantee.* What is novel in these cases, then, is not a new interpretation for the construction, but rather novel construals of particular words. The novel construal of these verbs allows the verbs to fall into well-attested conventionalized classes.

Notice that examples like the following sound distinctly more marked than those in (10):

11. ??? Pat helped/assisted Chris a job
    intended to mean, Pat helped Chris to get a job.

The oddness of (11) stems from the fact that verbs of assistance are not conventionally found in the double object construction. If verbs and con-

structions were able to freely combine without constraint, we would expect (11) to sound acceptable.

This being said, it is also clear that language is constantly in flux, and today's novel construal of a verb may be reanalyzed as an altogether new type of relationship between verb and construction tomorrow. In this way, new clusters of cases that were not conventional may come to be conventional. That is, if novel extensions with similar semantics gain in frequency, the resulting clusters would take on the conventional character of those described earlier.

4.2. Metaphorical Extensions

Another way in which constructional meaning can be extended is through the use of systematic general metaphors of the type discussed by Lakoff and Johnson (1980; see also Clark, 1973). For example, English and many other languages have a metaphor that involves talking about changes-of-state in terms of changes of location. Examples of this metaphor include:

12. a. He *dragged* himself *out of* the depression.
    b. The cereal *went from* crunchy *to* soggy in a matter of minutes.

It is quite a familiar and uncontroversial idea that words in a language can be used metaphorically. Several of the words in (12) refer literally to motion including *drag, out of, go, from, to,* but are being used to designate aspects of changes of state: becoming depressed or soggy. If we adopt the idea that the construction's basic meanings are concrete and physical as suggested in Table 8.1, then it is clear that the constructions, just like the words of a language, can be used with metaphorical interpretations. Although the literal sense of the construction used in (12) designates motion, it is used here to convey changes of state. Because words and phrasal constructions are of the same general type of entity, pairings of form, and meaning, this metaphorical use of constructions is expected.

Another systematic metaphor, causal events as transfers, is exemplified by the following expressions:

13. a. The situation presented us with a dilemma.
    b. The circumstances laid a new opportunity at our feet.
    c. The document supplied us with some entertainment.

Each of these examples describes a causal event: The situation caused a dilemma; the circumstances caused us to find a new opportunity; the document caused us to enjoy some entertainment. Notice that there is no

literal transfer: Nothing moves from one place to another, and yet, we use verbs like *present, lay (at someone's feet), supply.* That is because we can understand the causing of an effect in terms of the transfer of that effect. This metaphor licenses the following expressions:

14. a. The medicine brought him relief.
    b. The rain bought us some time.
    c. The music lent the party a festive air.

Again, the verbs *bring, buy,* and *lend* are verbs of transfer. They are licensed by the metaphor. Moreover, the double object construction itself, because it literally designates transfer, not causation, is licensed to be used by the metaphor that allows us to understand causation in terms of transfer. More specifically, the syntax is based on the source domain of the metaphor.

5. CONCLUSION

This chapter attempts to give a brief introduction to the idea that the basic clausal patterns of a language represent pairings of form and function, or *constructions.* In this view of grammar, there is no strict division between the lexicon and grammar: Both words and phrasal patterns are pairings of form and function. In fact, knowledge of language is claimed to consist only of knowledge of interrelated pairings of form and function.

The semantics of the clausal patterns has been argued to be based on fundamental patterns of experience, acquired through a process of categorizing over learned instances. Once constructions emerge from the input, they can be used in a top-down fashion to facilitate the acquisition of new verbs.

The semantics of particular constructions has been argued to be extended via constructional polysemy and metaphorical projection, yielding the fuller expressive power that is evident in the data.

NOTES

1. I would like to thank Mike Tomasello for detailed editorial comments on this paper.
2. Here and in the following, the form of constructions is characterized in terms of grammatical relations: Subject, object, secondary object, oblique, and so forth, in order to abstract over the linear order of constituents. For example, the same double object construction is assumed to be involved in the following expressions:

    4. a. What did Pat fax Bill? (double object + question construction)
       b. It was Pat who faxed Bill the letter. (double object + cleft construction)

3. It is not necessary that every syntactic form be uniquely associated with a particular semantics; there are cases of constructional polysemy (see section 4.1) and constructional ambiguity, where the same form is paired with distinct meanings.
4. Clark (1978) provided the following interpretations for the children's early uses in her data:

> *Put*: "cause to be or go in some place."
> *Make*: "construct," "produce," or "cause some state to come into being or be produced."
> *Go*: "move," often accompanied by a locative phrase or particle.
> *Do*: "perform an action," generally occurring with an agent noun phrase and sometimes with an additional patient argument. (p. 43)

5. At the same time, it is not being claimed that *all* clause-level constructions encode scenes basic to human experience. Nonbasic clause-level constructions such as cleft constructions (e.g., *It was Pat who left early*), question constructions, and topicalization constructions (e.g., *Pat, she can't stand*), and passives combine with argument structure constructions to provide an alternative information structure of the clause by allowing various arguments to be topicalized or focused.

   That is, children must also be sensitive to the *pragmatic information structure* of the clause (Halliday, 1967; Lambrecht, 1994), and must learn additional constructions that can encode the pragmatic information structure in accord with the message to be conveyed.
6. The idea that constructional meaning emerges from generalization over lexical instances allows for the fact that the prototypical meanings of constructions vary somewhat cross-linguistically (see P. Brown, in press, for a discussion of early verbs in Tzeltal).
7. This is one reading of Landau and Gleitman (1985).

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