Introduction

Chapter 2

Syntactic Relations and the Lexical Expression of Argument Structure and Form

Kirkham, Hal and Vernon, Jay

Richard W. Koslow

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incorporation.

A somewhat more complex class of argumental verbs is that represented by lexical heads identified with the syntactic structures projected by lexical heads.

The relation between the simple transitive structure (1) and the intransitive structure (2) becomes the class of pronominal complements known from a legal dictionary, whose study has been so revealing in terms of a lexical phenomenon, whose study has been so revealing in terms of pronominal complements. (See, for example, the legal dictionary entry for "head movement." )

To this extent at least, we are justified in our assumption that under-, verb and a nominal component are simply that of a transitive verb (not, of course, in strict accordance with either, (1)).

The Head Movement Constraint in (3) "from Tovey's 1974) also see Baker.

The movement depicted in (2) conforms to the principles that constrain the determinations depicted in (2) above.

Kenneth Hale is Samuel Jay Kramer
There are two ways to incorporate into the matrix "verb".

As shown in (g), the surface form of the verb is derived by three applica-

(1)

tions. This is shown in (7).

The second structure (5) is the initial lexical representation of English
over which fundamental syntactic relations and principles are defined.

And we assign in (5) the structure set out in (g).

We suppose that, abstractly speaking, the LRS representation of lone-

ion verbs is identical to that of the English verb in, as used in such

sentences as (g).

Kenneth Hale – Samuel Jay Keyser

Pur English

The argument structure of the sentence is as follows: the subject of the sentence is "the process that occurs when the incorporation condition is met". The predicate is "the corporation is governed by the Head Movement Constraint".

Argument Structure

```
(10) N  N  N  N  N
    A  A  A  A  A

N: Movement
A: Incorporation
```

Keneth Hale & Samuel Jay Keyser
Each of these hypothetical items, where (books on a shelf), He sheared the books.

And (p) He put the books on a shelf. He sheared the books.

He sheared the books on a shelf.

He sheared the books on a shelf.

He sheared the books on a shelf.

He sheared the books on a shelf.

The hypothesis that the shelves in (12) are responsible for the antecedent of the verbs of (11), and of

In short, we may conclude that in English, the verb “read” is not a transitive verb, and that it is not necessary to include a subject in the sentence where the verb “read” is used.

This gap in the English verbal lexicon can be explained within the framework of the ECP. The verb “read” in the sentence “He read the book” is not a transitive verb, and it is not necessary to include a subject in the sentence where the verb “read” is used.

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This is essentially the structure of the analytic expression make a screen.

Clear, get a screen clean, and it is the source by hypothesis, of the well.

Provision: the horse with a saddle. Hence, the over non saddle may notcorpo.

Thus, the verb saddle has a structure closely parallel to that of provide in

Representation for the base class of location verbs, like saddle, shrinked.

The abstract here would be a nounier version of the category appear-

The same reasoning might explain why English also lacks verbs like

Specific position in the inner VP thus violates the ECP (see Baker and Hale

The argument structure cannot legimaniy give rise to verbs of the type

Argument Structure

Kenneth Hale & Samuel Jay Keyser
could in theory be any learnable number of them. And why are the thematic

The number of thematic roles suggested in the literature is rather small—

The why the LTVH

(2) Why are there so few thematic roles

suggest to us,

In what follows, we would like to address two questions these matters

expressed by a number of scholars. First, how does of their

that give

expressed by a number of scholars. Second, how is it that the

authors

hypercubes

that is, and we are sympathetic with the view

language system. That is, is our syntax, our

that is, how are thematic roles assigned to the

Where we feel their grammatical ethics commonly attributed to the

(Barret 1988: 46)

(2) De-structure

the thematic roles?

And any other manner of "thematic roles" for any two items which a single

be responsible for the LTVH, according to which, for

of the thematic roles, according to which, for

Turning to the discussion of the semantic order, we have been assuming that it is

association of thematic roles, as in syntactic (general)

Among the observable correlates of the hierarchy, for example, is the

(((THEME)

(19) AGENT EXPERIENCE(AGENT SOURCE LOCATION)

(support GOAL, typically)

behave GOAL, typically)

that thematic roles from this one in the positioning of the thematic role

which thematic roles in the positioning of the thematic role

other parts

which thematic roles in the positioning of the thematic role

behave GOAL, typically)

behave GOAL, typically)

behavioral

behavioral

behave GOAL, typically)

behave GOAL, typically)

behave GOAL, typically)

behave GOAL, typically)
21. Categorics and Propositions

Their proposed in (27) the argumentative structure of LPS propositions. In particular, we suggest that the structure in (27) (and hence in (22)) should be understood in a universal hierarchy, and in conformity with the LPS framework that we believe to be fundamental in understanding the role of LPS arguments.

Kemnath Hall, 69

99
In (25) we express the ontological type of the category N as representing

(25) \( T \rightarrow N \)

the prepositional phrase (27) as (25).

In (25) we express the ontological type of the category N as representing

(25) \( T \rightarrow N \)

the prepositional phrase (27) as (25).

The structural relations and contextual conditions the document refers to are complex and involve multiple references to expressions and categorial structures. The text suggests a layering of reference and categorization, with expressions being assigned types or roles based on the context and structure of the document. The notation and diagrams used in the text are typical of formal linguistic analysis, aiming to capture the nuanced relationships within the text.
\[ \lambda \rightarrow \eta < \eta \] (29)

In the syntax, \( \lambda \) is the external to the semantic expression assigned to \( \Lambda \), as in the syntax, \( \eta \) is the subject of a predicate of "expression" and \( \eta \) is its subject in the argument expression. The subject \( \Lambda \) is the subject in \( \eta \) (27), corresponds to an entity that completes the representation of the subject relation in \( \Lambda \).

The subject relation \( \Lambda \) (27) may not be satisfied in the subject-predicate relation in \( \eta \). The representation of the syntax and semantic of the subject-predicate relation in \( \Lambda \) is not necessarily a necessary one in the subject-predicate relation in \( \Lambda \). The expression \( \eta \) is the subject in relation to the subject relation in \( \Lambda \), while the subject relation in \( \eta \) is not necessarily a necessary one in the subject-predicate relation in \( \lambda \).

Given the semantic expression \( \eta \) of \( \Lambda \), the subject-predicate relation in \( \eta \) is expressed in \( \lambda \) (27). This is true for some entities (especially those entities that are subject-predicate relations in \( \Lambda \), as can be seen in the example of \( \eta \)). However, in some cases (especially those entities that are subject-predicate relations in \( \Lambda \)), the subject-predicate relation in \( \eta \) is not necessarily a necessary one in the subject-predicate relation in \( \lambda \).

An interaction involves at least two entities, of course. Thus, the step-by-step process of an interaction with an entity corresponding to the subject relation is described in (28).

The most salient, meaningful, and essential to this structure is change. Thus,

\[ \lambda \rightarrow \eta < \eta \] (29)

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\[ \lambda \rightarrow \eta < \eta \] (29)

The most salient, meaningful, and essential to this structure is change. Thus,
denoting verb (see above and Hale and Keyser 1993)).

In the case of (39), on the other hand, the component NP remains in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized in the LRS representation of the various verbal lexical items, it is realized 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2.4 Categories and Specifiers

In this section in the following subsection.

The sentence structure is considered as the input to the English language. It is not possible to determine the relationship between the subject and the predicate without the use of auxiliary verbs.

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Full Information

4. Lexical Semantic Structure (Argument Structure)

The operation of two fundamental defining principles (1.1a) and (1.1b) given in (4.1)

Given these constructions, we can assume that the structures that exist along the lines of the semantic information 

Are the least F (where A is the number of that which has the same number of that which remains)

We refer to the following: the theory of the general principle according to which

As an example of the type of information which is the focus of the appearance of

We must also define what is the focus of the appearance of the

I conclude by considering the types of possible argument structures—

As far as I am aware, the component of which is included in the

In order to answer the question of which is included in the

Furthermore, the

As far as I am aware, V pruning and other LPS representations of

As far as I am aware, V pruning and other LPS representations of

As far as I am aware, V pruning and other LPS representations of

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As far as I am aware, V pruning and other LPS representations of
must be "external," as we have said. The LRS representation of a verb like laugh cannot be (36). Rather, it must be something on the order of (42a) or (42b). For the sake of expository simplicity, we will assume the former, since it is not clear to us what a truly "empty" Spec position means in our framework (though it may well be necessary to posit such a position; Unambiguous Projection is satisfied in either case).

(42) a. VP  b. VP
     \[ V \rightarrow NP \]  \[ V' \]

The precise sense in which the subject of an unergative verb is external can be left vague for the moment (see section 4.2 for discussion), but it will involve at least the assumption that the subject is not present in the LRS projection of the predicator, that is, the lexical VP. In English, at least, S-Structure subjects in general are in the Spec position of the functional category IP. Thus, omitting some irrelevant details, the S-Structure representation of (34a), The child laughed, is essentially as in (43).

(43) IP
     \[ NP \rightarrow I' \]
     \[ (the child) \]
     \[ VP \rightarrow V \]
     \[ (laugh) \]

By hypothesis, the verb is the result of incorporation—specifically of the LRS object laugh into the abstract V that heads the lexical item as a whole. The expressed subject is external to VP. If we adopt the accepted view according to which the VP in (43) is a predicate at D-Structure, we must also assume that it requires a subject at some s-syntactic level, by the Extended Projection Principle (Chomsky 1982, Rothstein 1983), presumably a corollary of the general principle of Full Interpretation. The required s-syntactic subject must at least appear in [Spec, IP] at S-Structure. Its D-Structure position is another question, and the VP-internal subject hypothesis, according to which the subject is dominated by the VP node in s-syntax, is not in conflict with our claim that the subjects of unergative verbs are external to VP in LRS representations.

If this reasoning is correct, then it must apply equally to the LRS representations of verbs associated with the "causal semantics" informally expressed in (25)—that is, to location verbs (like put, shelve), to locatum verbs (like saddle, blindfold), and to verbs of change of state (like thin, lengthen, break). This follows, since the inner VP, being "complete" and therefore not a predicate, cannot force the appearance of a subject in the matrix VP. Accordingly, the structure presented in (31), for the verb to thin (as of gravy, paint), must be corrected to (44), omitting the matrix subject.

(44) VP
     \[ V \rightarrow VP \]
     \[ NP \rightarrow V' \]
     \[ (the gravy) \]
     \[ thin \]

Thus, in a sentence employing this verb, like The cook thinned the gravy, the expressed subject (the cook) must be external to the lexical VP projection, as is the subject of an unergative verb. Further, as in the case of unergatives, predication in s-syntax is the means by which the expressed subject is interpreted. This subject occupies [Spec, IP] in the s-syntax of a tensed clause, as in the abbreviated D-Structure representation (45).

(45) IP
     \[ NP \rightarrow I' \]
     \[ (the cook) \]
     \[ VP \rightarrow V \]
     \[ (thin) \]
     \[ (the gravy) \]
The verb of (45) is derived (in l-syntax) by successive incorporation of the adjective thin into the abstract verbs of (44), in conformity with the provisions of the head movement process.

Our analysis of unergative and causative verbs depends on the notion that a VP is not a predicate in l-syntax. We extend this to all VP projections: none is an l-syntactic predicate in the relevant sense, that is, a maximal projection forcing the appearance of a subject internal to LRS (see Hale and Keyser 1991 for fuller discussion of this). If this notion is correct, then we can explain—in part, at least—why there is a limit on recursion in LRS representations. Empirically, the LRS representation for a verb generally has at most one VP embedding. Thus, so far as we know, no verb corresponds to the hypothetical LRS representation (46), because that structure fails to satisfy the requirement of full interpretation. The most deeply embedded VP is not a predicate; so, by that hypothesis, the inner subject is not licensed.

\[ (46) \]
\[
\begin{array}{c}
\text{VP} \\
\text{V} \\
\text{V} \\
\text{NP} \\
\text{V} \\
\text{V} \\
\text{VP}
\end{array}
\]

But if this structure is illicit because of a failure of predication, then what if the NP is simply omitted? This would give (47), also nonexistent, so far as we know.

\[ (47) \]
\[
\begin{array}{c}
\text{VP} \\
\text{V} \\
\text{V} \\
\text{VP}
\end{array}
\]

We assume that the same general principle precludes this structure as well. The “double causative structure” cannot be interpreted, since only one causative can be predicated of a subject in s-syntax. Again, this is a failure of predication (of the inner VP in this case) and hence a failure to achieve full interpretation. Thus, unrestricted recursion of the VP category—although similar in character to the s-syntactic recursion freely permitted, for example, by clausal complementation—is impossible in the syntax of LRS representations, precisely because of the full interpretation requirement. To be sure, full interpretation is a requirement of s-syntactic structures as well, but its effect there is different, due, among other things, to the properties of the various functional categories, which define a Spec position for external arguments.

2.5 External and Internal “Subjects”

If the s-syntactic subjects of transitives and unergatives are “external subjects,” how are they in fact related to their verbs? In a sense, the answer is simple: they are related to their verbs through predication. Relative to the VP, they appear in an s-syntactic position appropriate for predication (see Williams 1980, Rothstein 1983, Rapoport 1987).

We will assume that this answer is correct. But of course there is a deeper question. Is this external subject a part of the argument structure of the verb that heads the VP predicated of it? Is the external subject an argument, in any sense, in the l-syntactic representation of the verb? Does it, so to speak, receive its thematic role from the verb?

We believe the answer to this question is negative. The external subject is not present in the LRS representation of the verbs under consideration here. At least, it is not present in the sense of this framework—for example, in the sense in which an object is present as a point in the LRS projection defined by the verb. It therefore cannot “receive its thematic role” from the verb, since the concept “thematic role,” to the extent that it can be understood in the context of LRS representations, corresponds precisely to the notion “lexical relation,” defined over the LRS projection. If the subject is absent from the LRS representation of a verb, then clearly it cannot “receive its thematic role” from the verb.

How, then, do we account for the fact that the external subjects of unergative and causative verbs, say, are understood as “agents” in relation to the events named by those verbs? How is the “agent role” assigned?

We assume that it is correct to say that the subjects in question are associated with a semantic role, typically the role termed “agent,” and we will adhere to the traditional usage in saying that these subjects are “assigned the agent role.” However, we assume that this assignment is “constructional,” in the sense that it is effected in a syntactic configuration defined in s-syntax. This manner of assignment, we contend, is to be distinguished entirely from that associated with the semantic roles (theme, patient, goal, etc.) corresponding to the l-syntactic relations defined by LRS projections. The agent role is a function of s-syntactic predication.
Insofar as it concerns the agent role, this view is essentially that developed by Chomsky (1981) and Marantz (1984), according to which the subject receives its semantic role from VP, not from the V itself.

Not all subjects are “external” in this sense. And, accordingly, not all subjects are “agents.” Verbs of the type represented by thin (the gravy), tighten (the cinch), loosen (the girth)—that is, members of the class of “ergative verbs” (Burlzio 1981, Keyser and Roeper 1984)—have the property that they may project both transitive and intransitive s-syntactic verb phrases. In the latter case the internal NP undergoes movement to subject position—that is, to [Spec, I] in (48a–c).

(48) a. The gravy is thinning nicely.
   b. The cinch finally tightened.
   c. The girth loosened.

Here, the s-syntactic subject is “internal” in the sense that it is an argument internal to the LRS representation of the verbs. We maintain that it is exactly this internal subject that is to be identified with the “affected argument” of the Affectedness Condition, which has played an important role in lexical and syntactic studies since Anderson’s work on passive nominals (Anderson 1977; and for relevant recent studies of the role of the affectedness property, see Jaeggi 1986 and Pesetsky 1990). If the affected argument is an internal subject in l-syntax, as we believe, the semantic notion “affected” is correlated with a structural position in the l-syntax representations of verbs.

The verbs of (48) belong to the class of so-called ergative verbs, exhibiting an “uncompromised” transitivity alternation along the ergative pattern—that is, with object of transitive and subject of intransitive the stable argument in the alternation. But to this class of verbs must be added those that enter into the middle construction of English. These exhibit the same transitivity alternation, “compromised” by various well-known requirements that must be met for full acceptability (e.g., use of the generic, a modal, or an adverb like easily, as in (49)).

(49) a. Rye bread cuts easily.
   b. These bolts tighten easily.
   c. Limestone crushes easily.

Of course, all ergative verbs can be used in the middle construction; (49b) is a good example. Like the inchoative (i.e., the intransitive use of ergatives, as in (48)), the middle involves s-syntactic movement of an argument bearing the internal subject relation (in the case of the middle, this is an object in s-syntax). Transitive verbs that can undergo middle formation are just those whose s-syntactic object is an “affected argument”—that is, those whose s-syntactic object corresponds to an internal subject in LRS.

Under these assumptions, it is perhaps not sufficient to assume that the relevant portion of the S-Structure representation of the middle sentence (49b) is simply that depicted in (50), in which the derived subject heads a chain with the trace of NP-movement in s-syntactic object position.

(50) 
\[
\text{IP} \quad \text{NP} \quad \text{VP} \\
\text{(these bolts)} \quad \text{V} \quad \text{NP} \\
\quad \text{tighten} \quad \text{I} \quad \text{VP} \\
\]

This assumption is insufficient, since the VP here is indistinguishable from that of expressions like make trouble, have a baby, do a job, whose l-syntactic and s-syntactic representations alike correspond to the simple transitive type [VP V NP] (i.e., the same as that projected by unergative verbs). The latter do not enter into the middle construction—predictably, by hypothesis, since they do not involve an “affected” argument in the relevant sense. By contrast, the l-syntactic counterpart of the VP of (49b) is that depicted in (51), in which the argument at issue (these bolts) is an internal subject.

(51) 
\[
\text{VP} \\
\text{V} \quad \text{VP} \\
\text{NP} \quad \text{V} \quad \text{AP} \\
\text{(these bolts)} \quad \text{tight} \\
\]

The middle construction of English appears to be restricted to verbs that have an internal subject in this sense. This implies that transitive verbs like
cut, break, crush partake of the complex l-syntactic causative structures assumed here for the conflated denominal location/locatum verbs and for deadjectival verbs of the type represented in (49b). And if the English middle construction is formed in s-syntax, then the relevant aspects of these structures must be “visible” at that level.

Although we speculate that this account of the English verbs under discussion is essentially correct, there are a number of serious problems that must eventually be dealt with. Here we will deal with only one. It concerns an asymmetry in the transitivity alternations exhibited by ergative and location/locatum verbs, reflected by (among other things) an asymmetry within the class in the distribution of the middle and inchoative forms.

3 Transitives, Inchoatives, Middles, and Verbal Modifiers

The difference between inchoatives and middles is an old issue, and it is the focus of an extensive literature (e.g., Van Oosten 1977, Lakoff 1977, Keyser and Roeper 1984, Jaeggli 1984, Hale and Keyser 1986, 1987, 1988, Condoravdi 1989). Why is the acceptability of the middle conditional? Why does the middle, unlike the inchoative, require some modification—such as modal, aspectual, an adverb—to achieve acceptability? In the following discussion we will be concerned, not with this time-honored problem, but with a problem defined by our own system: the distribution, across verbs, of the inchoative and the middle constructions.

The problem is this. As shown in (52), ergative verbs, like narrow, clear, and tighten, all have an inchoative use in addition to their transitive and related middle uses.

(52) a. The screen cleared.
   b. I cleared the screen.
   c. This screen clears easily.

We have assumed that such verbs, in their transitive uses at least, all have the structure depicted in (51). Further, we have assumed that this structure is, in the relevant respects, the same as that associated with location and locatum verbs. However, these verbs lack the inchoative, as shown in (53).

   b. I shelved the books.
   c. These books shelve easily.

Thus, although both the middle and the inchoative, by hypothesis, involve s-syntactic movement of an internal argument, the two processes are not coextensive: the inchoative is more restricted than the middle. Why is there this difference?

To this point we have assumed that both ergative verbs and location/locatum verbs involve an inner VP of the form shown in (54).

(54) 
  NP  VP
    V
     X

The head of XP belongs to a category that forces the appearance of a subject, hence the NP in [Spec, VP]—in other words, XP is either PP or AP. Since the two verb classes involve essentially the same structure, there is no obvious reason for the difference they exhibit in relation to the inchoative. It is possible, of course, that the assumption embodied in (54) is in error and that the two verb classes are structurally distinct, the structural difference accounting for the difference in behavior. In earlier work (Hale and Keyser 1991) we entertained this possibility and attempted to develop it. Here, however, we will consider an alternative proposal (adapted from Hale and Rapoport, in progress), and we will attribute the structure depicted in (54) to ergative verbs and location/locatum verbs alike.

The proposal we will consider here does not actually solve the problem we have identified. We suspect, however, that the solution lies in the direction indicated by the observations we will make. The observations in question have to do with semantic components of manner or means present in the lexical representations of verbs, and, whatever their relevance to the present problem, their grammatical properties are properly part of a full account of the verbal lexicon (see Levin and Rapoport 1988 for a promising proposal in this regard).

3.1 The Transitivity Alternation

In the following discussion we will momentarily turn away from the denominal verbs themselves to the more general phenomenon of transitivity alternations and observed asymmetries in their distribution.

Basically, we will be concerned with members of two large classes of verbs. The members of one class participate in the simple transitivity alternation shown in (55).
(55) a. The pigs got mud on the wall.
    b. Mud got on the wall.

In contrast, the members of the other class fail to occur in pairs of this type, as shown in (56), taking only the transitive form.

(56) a. We put mud on the wall.
    b. *Mud put on the wall.

In these uses, both get and put, like other members of the classes they represent, depict events in which some entity or material (in this instance, mud) undergoes a change of location, so that it “comes to be located” at a place corresponding to the nominal expression in the prepositional phrase (in this instance, the wall). In accepted parlance of semantic and thematic roles, the moving entity or material is called the theme (Gruber 1965, Jackendoff 1972); and in syntactic terms, it corresponds to the grammatical object in the transitive uses of get and put, and to the grammatical subject in the intransitive use of get.

The issue here, of course, is the transitivity asymmetry exhibited by these two verb classes. Continuing our earlier usage, we will refer to the transitive sentences of (55)–(56) as the causative alternant; the intransitive sentences represent the inchoative alternant. The question here is the same as the one formulated in relation to the denominal verbs of (52) and (53): Why does (55) admit an inchoative alternate, while (56) does not?

By assumption, the lexical argument structure of intransitive get, as in (55b), is as shown in (57).

(57) NP
    ↓
   V
    ↓
   (mud)
    V
    ↓
   (get)
    ↓
   PP
    (on wall)

By contrast, the transitive use exemplified in (55a) involves a more complex structure. Whereas (55b) involves a simple and single event, that of a change in location (e.g., mud comes to be on the wall), the transitive (55a) depicts a complex situation consisting of two subevents: a cause and an effect. The lexical argument structure of transitive get, as used in (55a), is the correspondingly more complex (58); of course, the same structure is shared by English put.

By Full Interpretation, the agent of causation (The pigs in (55a), we in (56a)) is necessarily an external argument. The VP complement of the matrix (causative) V in (58), being fully evaluated, is not a predicate and therefore cannot license the appearance of a subject NP in the Spec position of the LRS projection defined by the causative verb. From this it follows that “further causativization” of get is impossible in lexical structure (hence, *we got the pigs mud on the wall, in the sense We brought it about that the pigs got mud on the wall).

Structures of the type represented by (58) are of course subject to incorporation, as depicted in (59).

(59) VP
    ↓
   V
    ↓
   (get, put)
    ↓
   PP
    (on wall)

By contrast, the transitive use exemplified in (55a) involves a more complex structure. Whereas (55b) involves a simple and single event, that of a change in location (e.g., mud comes to be on the wall), the transitive (55a) depicts a complex situation consisting of two subevents: a cause and an effect. The lexical argument structure of transitive get, as used in (55a), is the correspondingly more complex (58); of course, the same structure is shared by English put.

The structures given in (57)–(59) are I-syntactic representations. The D-Structure representation of a given sentence comprises a pair consisting of lexical structure and the system of functional categories that select designated lexical projections. D-Structure is itself subject to various well-known principles that, in some cases will force displacement, or movement, of phrases and/or heads.

The D-Structure representation of (55b) involves at least the lexical argument structure (57) and the functional category I, as shown in (60).
Here, of course, the external subject NP (e.g., the pigs, we) is truly an “external” argument, appearing in D-Structure in [Spec, IP] and getting its semantic role directly through the predication relation that holds between it and the verb phrase as a whole. The inner “subject” (e.g., mud) does not “raise” in this case, since it is assigned Case by the transitive verb that heads the projection bearing the predicate relation to the external subject. In this circumstance, therefore, the inner “subject” is the D-Structure “object” of the transitive verb.

Returning now to the original question—why English get may enter into both the transitive and intransitive constructions, whereas put may only be transitive—we begin to consider a possible answer.

3.2 Inchoatives and the Licensing of Means and Manner
To address this problem, it is necessary to move beyond this very restricted set of data to a larger group of transitive and intransitive verbs of “change of location,” which share the selectional property that they take a PP complement, together with an NP corresponding to the semantic role “theme.” Consider first the set of verbs in (62), having to do with the motion or transfer of liquids, or liquid-like matter.

(62) splash, drip, dribble, pour, squirt,…

As shown in (63)–(65), these verbs appear readily in both the inchoative (intransitive) and transitive forms.

(63) a. The pigs splashed mud on the wall.
    b. Mud splashed on the wall.

(64) a. We dripped honey on the cornbread.
    b. Honey dripped on the cornbread.

(65) a. They poured gas into the tank.
    b. Gas poured into the tank.

Now compare these verbs to the ones in (66).

(66) smear, daub, rub, wipe,…
Like put, these fail to appear in the inchoative.

(67) a. We smeared mud on the wall.
    b. *Mud smeared on the wall.

(68) a. They daubed pipeclay on their bodies.
    b. *Pipeclay daubed on their bodies.
licensing, and if the denominal location verbs share this property, then the problem is solved. The inchoative is impossible for *put*, and for the denominal location verbs as well, because raising the object to [Spec, IP] blocks licensing of the externally oriented manner modifier. By contrast, English *get*, though structurally identical to *put* in 1-syntaxis, is evidently devoid of all means or manner modification; and, as expected in view of the fact that no licensing is required, the inchoative is possible for *get* (as in (55b)).

If the inchoative blocks licensing of externally oriented manner modifiers, then why is the middle construction possible for denominal location verbs, as in (53c)? With respect to middle formation, these verbs do not differ from ergative verbs. If the middle involves extraction of an object, as is usually assumed, then how is the manner component of the verb of (53c) licensed?

Here again, we can only suggest the answer to this question. The middle is uniformly possible, we contend, for all (single-complement) transitive verbs that have an internal subject, whether or not the inchoative is also possible. We suspect that the middle is formed from a transitive structure, rather than from the simple intransitive structure in which the internal subject is immediately dominated by the uppermost VP node. The latter is the structure associated with the inchoative. Thus, the verb of *The screen cleared* is the intransitive depicted in (72), whereas the verb of the middle construction, as in *These horses corral easily*, is the (causative) transitive construction depicted in (73).

(72)

(73)

The verbs of (66) cannot appear in the intransitive, inchoative form because their externally oriented manner modifiers are associated with the causative verb. They are necessarily transitive—and the (b) sentences of (67)–(69) are accordingly impossible. On the other hand, if the middle is formed from the transitive, that construction will not interfere with the licensing of externally oriented manner modifiers, since their required locus—the causative verb—is present in the transitive LRS representation.

4 Final Remarks and Remaining Questions

The purpose of this paper has been to explore the limits on (verbal) lexical items with respect to their argument structures and, if possible, to give an explanatory account of linguistically relevant limitations on lexical entries. Our intent has been to contribute to the effort to determine what is and what is not a possible lexical argument structure. We have made use of denominal verb formation as a probe into the inner organization of lexical argument structure, concluding that argument structure can be properly viewed as a syntax and, accordingly, subject to the laws of syntax, as known generally. In particular, it is subject to the principles determining the grammatical uses of head movement or incorporation (Baker 1988). A full attempt to account for argument structure must, we have argued, assume that the syntactic projection of lexical categories and arguments conforms to the principles of Unambiguous Projection (Kayne 1984) and Full Interpretation (Chomsky 1966b). We suspect, and have intended to show, that this is essentially all that is needed to give a full account of the notion “argument structure.” If so, then there are no linguistic mechanisms that are specific to argument structure. For example, there is no process of “thematic role assignment,” apart from predication; and there are no “thematic roles,” apart from the lexical relations ex-
There is a sense in which incorporation of the type we have been considering here is in fact “restricted to the lexicon.” It is restricted to the domains defined by lexical items, that is, to LRS representations. But this apparent restriction reflects an accidental circumstance, having to do with the fact that incorporation effecting denominal and dejectival verb formation involves strictly local movement from lexical head to lexical head. In contrast to movement processes in what we have we have termed s-syntax, no functional categories are involved in the verb formation processes at issue here, since no functional projections are present at points internal to the domains defined by lexical entries. Thus, there are real differences among movement processes that can, with some justice, be associated with a distinction between lexical and nonlexical phenomena, in some accepted sense. Denominal verb formation is in some sense lexical, whereas the passive, say, is nonlexical ("syntactic" in the traditional sense). But these differences are in reality ones of structural and categorial domain. The two types share the property that they are syntactic and are defined over syntactic structures.

We should mention here that, on the assumption that the passive (or NP-movement in general, perhaps) involves crucial reference to functional categories (e.g., to I and Case), Larson’s appealing and conceptually productive analysis of the double object construction (Larson 1988) is incompatible with the view that LRS representations exclude functional projections. Although Larson’s analysis does not itself directly obtrude this problem, since he does not necessarily share our assumptions, our own framework simply cannot make use of an “internal passive” to derive the double object construction—NP-movement cannot be motivated, and there can be no “place” for the agent in LRS representations (but see Hale and Keyser 1991:chap. 1, in which the passive analysis is briefly assumed).

Our position is that the double object construction is not an “internal passive” of the sort proposed by Larson. Rather, it involves a nonover preposition expressing “central coincidence” (Hale 1986), corresponding to the overt with in its “possessive” use. This is the same as the nonover preposition appearing in the LRS representations of locatum verbs like saddle, and it contrasts with the to of “terminal coincidence” that appears in the overtly prepositional partner in the dative alternation. On this view, saddle the horse, give John a saddle, and provide John with a saddle all have the same LRS representation involving the preposition of central coincidence (see (15), (16), and associated text), whereas give a saddle to John involves the preposition of terminal coincidence. By hypothesis, therefore, the dative alternation involves a lexical parameter: namely, the choice of the central or the terminal preposition at the head of the internal PP predicate (see Hoffman 1991 for a related conception of certain Bantu applied constructions).

4.2 The External Subject Relation

The idea that the passive may not apply, internal to an LRS representation, to introduce an NP argument into the Spec position is perhaps akin to the general fact that the Spec position may not be occupied unless the appearance of an NP there is “motivated” in some manner, whether by predication (as in section 2.3) or by circumstances having to do with Case and agreement, irrelevant in LRS, by hypothesis. But this raises again the question of what permits the appearance of subjects—at D-Structure, at least—with unergative and transitive verbs, and with passives, for that matter.

The matter is not simple, by any means, but it appears that the presence of an NP in [Spec, VP] can be motivated, and therefore required, by factors having to do with the matrix syntactic environment in which a lexical item appears, regardless of properties internal to its LRS representation. For example, the causative of an unergative verb is perfectly well formed in many languages that have overt causative morphology, as exemplified by the Papago (Tohono O’odham) verbs in (75), in which the matrix causative verb is realized overtly by the suffix -cud.

(75) a. bisk-cud  ‘cause to sneeze’
    b. a’as-cud  ‘cause to laugh’
    c. wihs-cud  ‘cause to vomit’
    d. t’ihog-cud ‘cause to cough’

Here, we might suppose, some grammatical property of the suffixal causative verb—for example, its “transitivity,” including the ability to assign accusative Case—licenses the NP in the Spec position of the unergative verb. This NP will correspond to the semantic “agent” in the event named by the unergative predicate; that is, it will bear the same semantic relation to the unergative predicate that its s-syntactic subject bears in the intransitive construction. But in the causative, this “agent”—the causee, as it is sometimes called—is realized by an NP argument having the properties of a grammatical object in relation to the derived causative verb. The latter, in its general syntactic behavior, is simply a transitive verb. In (76a), for example, the NP (g) ’a’al ‘children’ is the
The diagram represents a sequence of symbolic structures, typically used in linguistic analysis. It appears to illustrate a transformation or movement in a syntactic structure, possibly indicating a process of syntactic reordering or transformation. However, the specific symbols and their meanings are not immediately clear from the image. The diagram may be related to the discussion of transformational grammar or syntactic rules, which are fundamental in the study of natural language processing and computational linguistics.