THE TWO VERBS BEGIN

David Perlmutter

Introduction. Perlmutter's 'The two verbs begin' is a good example of classic syntactic argumentation. He wishes to show that begin must occur in two sorts of deep structures, with two very different sorts of subject. Of course, there should be a difference in semantic interpretation correlated with this difference in deep structure, and for begin no such difference is ever discussed. We raise this issue in the questions following the article. If the article were to be rewritten today, semantic arguments would probably be much more prominent. When the article was written, however, it was believed that if syntax and semantics were not exactly independent of each other, still the drawing of a syntactic distinction should be supportable on syntactic evidence alone. Many people still believe that this is the proper approach.

The arguments Perlmutter uses, then, are mainly syntactic, and, in the section on intransitive begin, they are arguments that are universally accepted and very frequently used in transformational work. Every student of syntax should know how to use arguments based on selectional restrictions or distributional properties, There-Insertion, and the synonymy or nonsynonymy of active/passive pairs.

The organization of the syntactic arguments is very clear. There are two sections: five arguments that begin can appear as an intransitive V in the deep structure, followed by six arguments that begin can appear as a transitive V in the deep structure. Nowhere in the article, however, does Perlmutter consider a deep structure in which begin appears as an auxiliary verb to the following infinitive, all within one S, as shown here.
(Note that the details of the deep VP here need not be worked out as far as we are concerned, since we will see that this deep structure is untenable.)

The hypothesis that only one S node is involved even when two Vs are present in the surface could be called the 'null' hypothesis, since it is based on the assumption that the deep structure is essentially identical to the surface structure and that no significant structure-changing transformations have applied. In this hypothesis begin would be treated as something akin to an auxiliary. Undoubtedly, Perlmutter does not discuss the null hypothesis because he found it inadequate and assumed his reader could test it on his own and discard it for himself. But Perlmutter probably considered this as the very first hypothesis when first approaching the problems posed by begin. It is important that every student of syntax recognize the value and develop the habit of testing the null hypothesis for any given problem. Clearly, if the null hypothesis will account for all the data, it is the preferred hypothesis in that it is the simplest account we can give. Abstract deep structures should not be proposed unless the data make such proposals unavoidable. For this reason we suggest that the reader consider the 11 sets of data given in Perlmutter in light of the null hypothesis. The questions following the article also direct attention to this proposal.

The Two Verbs Begin

DAVID M. PERLMUTTER

In the current theory of syntax there are two ways available to represent the deep structure of sentences like

(1) Zeke began to work.

Begin might be an intransitive verb like seem and happen, which take abstract (sentential) subjects in deep structure, so that the deep structure of (1) would be something like

(2) with the subject NP Zeke being substituted for it by it-replacement and the rest of the embedded S being moved to the right and brought under the domination of the matrix VP*, yielding the correct derived constituent structure of (1).

On the other hand, begin might be a verb like try, which takes object complements. Since there are no sentences like

(3) *Zeke began for Oscar to work.

SOURCE: Revised version of a paper read at the annual meeting of the Linguistic Society of America, December 1967.
if we accept Perlmutter's assumption (which you uncovered in Question 1) that nominalizations such as those in (i) come from underlying sentences. However, even if it could be shown that such nominalizations do not have their source in deep structure sentences, (i) would only show that begin can also occur in an intransitive deep structure with a nonsentential subject NP. Given the comparative explanatory powers of the three analyses for the data discussed thus far, in which structure(s) would you now say begin can appear in deep structure?

**Question 8.** The first argument that begin must also be able to appear as a transitive verb in deep structure is based on the fact that begin can form an agentive nominalization, as in (i).

(i) Pete is a beginner.

Perlmutter claims that this is an argument that begin must be able to take animate subjects in deep structure. Remember that Perlmutter is considering only the two possibilities: that begin takes either a sentential subject or a sentential object. How does it, then, follow from (i) that begin can occur as a transitive V in deep structure? (Recall *seemer, *happen.) Is it true that only Vs that can take animate subjects in deep structure can form agentive nominalizations? Consider the nominalization mover in (ii).

(ii) Pete's a real mover.

Here mover does not mean that Pete moves things, but only that he himself moves in an especially skillful way. Thus mover here corresponds semantically to the intransitive rather than the transitive V move. If we find an agentive nominalization, then, we can conclude that the corresponding V must allow animate subjects in deep structure but not that that V need be transitive in deep structure. Thus Perlmutter's argument holds only if the intransitive V begin can take sentential subjects but cannot take animate subjects in deep structure. None of the data presented so far require the intransitive begin to allow nonsentential deep subjects, according to Perlmutter. As you noted in Question 7, however, if nominalizations such as that in (i) in Question 7 do not have an underlying sentential source, we must allow the intransitive begin to allow nonsentential deep subjects. Can any of these nonsentential subjects be animate?

Can the null hypothesis account for a beginner? Try to form agentives from other auxiliary elements.

Note that Perlmutter is claiming that there is a transformation which turns the V begin into the agentive nominal beginner. His argument does not rely on that claim, however. For even if no such transformation exists, one can still use the fact that any V which does have a corresponding agentive of this type can take animate subjects in deep structure, when one is arguing about the types of deep subjects a verb may take, and hence what types of deep structures it may appear in.

In fact, there is a question as to whether there is indeed a transformation turning the V begin into the agentive beginner. Note that there is no straightforward semantic relationship between (iii) and an S with John as the surface subject of the V begin.

(iii) John is a beginner at skiing.

Probably the closest relationship is with Ss with progressive aspect, like (iv).

(iv) John is beginning skiing.

But here the relationship does not always go through: compare (v) and (vi).

(v) John is a beginner at love.
(vi) John is beginning??loving/*love.

Furthermore, some agentives lack corresponding V forms (grocer/*groce), and many agentives do not have the -er ending (cook, wastrel, repairman, typist). In Chomsky's article in this volume you will see arguments that there is an idiosyncratic relationship of such nominalizations to the V. The transformational relatedness of begin and beginner cannot be used as an axiom, but the distributional properties of beginner itself are still relevant.

**Question 9.** The next argument is based on the fact that Vs like try, condescend, and refuse can take begin in their complements, as in (i).

(i) I tried to begin to work.

Perlmutter claims, citing Perlmutter (1968) for arguments, that such Vs manifest the like-subject constraint, which requires that the subject of the S embedded immediately beneath them be identical to their own subject in deep structure. Thus in (i) the deep structure subjects of both try and begin must be I. Therefore, to work in (i) must come from a sentential object. However, consider Ss like (ii).

(ii) Mary always tries to be seen in the most chic restaurants.

If Passive has applied on the lower cycle in this S, what aspect of the like-subject constraint does this example call into question? Now consider (iii) and (iv).
(iii) Mary usually tries to appear to understand, even when she misses the point entirely.
(iv) Mary always tries to be tough to convince, but Jack can win her over every time.

What rule has applied on the appear cycle in (iii)? What rule has applied on the be tough cycle in (iv)? Is the like-subject constraint a deep structure constraint, in light of (ii)-(iv)? How might we state it? If the like-subject constraint is not a deep structure constraint, does Perlmutter’s argument about begin hold?

**Question 10.** The next argument uses the fact that begin can be embedded immediately under force. Perlmutter claims, again citing Perlmutter (1968) for arguments, that V’s like force require the subject of the S embedded immediately beneath them to be identical to their own subject in deep structure. Thus in (i), both the deep structure object of force and the deep structure subject of begin must be Tom.

(i) I forced Tom to begin to work.

Again, this argument rests on the claim that the constraint as Perlmutter states it is a deep structure constraint. What kinds of evidence would you look for in order to test whether or not this constraint is a deep structure constraint? Give some relevant examples.

**Question 11.** The fourth argument is based on the fact that begin can be the matrix V of an imperative S, as in (i).

(i) Begin to work.

Perlmutter claims that imperative Ss require you as their subject in deep structure. If this is true, what problem arises in the analysis of the imperatives in (ii)-(iv)?

(ii) Don’t be hurt by his rudeness.
(iii) This time at least appear to understand what she says.
(iv) This time be tough to convince.

Are the following imperative sentences? What are their deep structure subjects?

(v) Somebody turn off the light!
(vi) Nobody move!

If it is not the deep subject of an imperative but rather the subject at the time of Imperative Subject Deletion which must be animate, does Perlmutter’s argument about begin hold?

Could the null hypothesis account for (i)?

**Question 12.** The next argument uses the fact that begin can take simple NP objects in the surface, as in (i).

(i) Sam began the job.

Perlmutter concludes that it can therefore be transitive in deep structure. Up to this point, the only transitive structure Perlmutter has argued for is that which has an underlying sentential object. Ss like (i) raise the question of whether or not transitive begin can also take nonsentential objects. Perlmutter assumes in his article that begin takes a nonsentential object in (i). He argues that if begin takes two kinds of objects, we have all the more reason to believe that it takes at least one kind of object. In footnote 11, however, Perlmutter suggests that it may be possible to argue that Ss such as (i) have a sentential object underlyingly and that the V of that sentential object for some reason does not appear in the surface. Note that (ii) can mean (iii) but not (iv).

(ii) I began dinner.
(iii) I began preparing/cooking/eating dinner.
(iv) I began throwing dinner on the floor/ruining dinner/cleaning up after dinner/digesting dinner, etc.

The way in which we understand begin NP then, is one of the strongest arguments for an analysis in which begin takes a full S object complement with an abstract (transitive) V, as in example (v).

\[
\text{S} V \left[ \begin{array}{l}
\text{dinner} \\
\text{typical} \\
\text{agentive}
\end{array} \right]
\]

This abstract V would not be spelled out in the surface. After Equi and all spelling out rules, we would be left with begin followed by the NP object of the abstract V. The S complement of begin, however, need not have an NP dominating it in order for us to account for (vi).

(vi) The job was begun by Sam.

Can you find any syntactic arguments which offer evidence for choosing between Perlmutter’s text analysis and the analysis of footnote 11 as expanded here? (See footnote 7, Newmeyer 1975, and Ross 1976 for relevant arguments.)

Can the null hypothesis account for (i) and (vi)?

**Question 13.** Another argument relies on the fact that begin can appear without an overt NP or verbal form after it in the surface, as in (i).
(i) Mark began enthusiastically, but he got tired by noon.

Perlmutter claims that there is a rule which deletes objects in Ss such as (ii) or (iii),

(ii) I usually eat late.
(iii) I read at night.

and that this rule can account for the lack of a complement after begin in (i) only if begin takes objects in deep structure. Can you think of any evidence that eat and read in these examples had objects in deep structure? Can the null hypothesis account for (i)?

**Question 14.** Perlmutter proposes that whenever begin has an inanimate subject in the surface, we are dealing with the intransitive begin. In support of this proposal, he gives an argument based on the fact that VPs beginning with begin can be replaced by do so, as in (i).

(i) I forced Warren to begin to work and Paul forced Jerry to do so.

He claims that Vs which take sentential subjects can never be replaced by do so. Thus (ii), in which begin takes a sentential subject by Perlmutter's analysis, cannot have do so.

(ii) Heed began to be paid to urban problems and attention did so too.

Likewise, (iii), in which we have a surface inanimate subject, cannot have do so.

(iii) ??Oil began to drip from the tanker and gasoline did so, too.

Sentences (i) through (iii) show the explanatory power of Perlmutter's analysis. Give other examples that would be ruled out by this constraint on do so. Now consider Ss such as (iv) with continue, noting that Perlmutter claims that continue shares all the properties of begin discussed in this article.

(iv) John replaced all the washers, but the kitchen faucet continued to leak and the bathroom faucet did so, too.

If this S is good for you with the reading in (v),

(v) The bathroom faucet continued to leak.

then for you the do so argument does not go through. What do you think is the crucial difference between (iii) and (iv)?

Certainly both Ss have inanimate subjects in the surface for begin and continue. But do you see any difference in the agentiveness of their subjects? If you do, try to salvage Perlmutter's argument.

Question 15. In terms of the form of the argument, what do the arguments mentioned in Questions 8, 10, 11, and 14 have in common? (Note that Perlmutter does not include the material of Question 14 as an argument per se, but rather as a proposal.)

Question 16. The null hypothesis meets some questions with the arguments mentioned in Questions 8, 9, and 10, since begin appears in the structures referred to in these arguments more readily than do the Aux's (*He's a haver, *She's a muster: ??I tried to have understood; ??I forced John to be studying*). However, since Aux's certainly contribute to the semantics of an S, one might propose that these examples usually exclude most Aux's for semantic rather than structural reasons. Thus begin could still be argued to have the same status as an Aux in Questions 8, 9, and 10. Certainly Question 11 presents no problem for the null hypothesis. (Cf. Mary, stop arguing! Just sit down and be studying when the curtain goes up.) But the argument in Question 12 is more trouble. We never get Aux's followed immediately by NPs (*He has the problem in the sense *He has done the problem*). Thus we have no evidence that there is a rule deleting Vs between Aux's and direct objects. Begin, then, is quite different from the Aux's here--a fact the null hypothesis cannot account for. The argument in Question 13 is less of a problem, since we do have a VP deletion rule allowing Aux's to appear without following Vs, as in Jack has been studying since noon and Paul has been since 1:30. If begin were an Aux, we could try to say that VP deletion had applied in (i).

(i) Mark began enthusiastically, but he got tired by noon.

The problem is that VP deletion occurs in more restricted contexts than the deletion rule in (i). VP deletion requires that the deleted VP have an identical VP in either a preceding or a noncommanding clause, or in a preceding sentence in the discourse. The deletion in (i) does not observe this constraint. The null hypothesis, then, cannot account for (i).

If begin were to occur only in intransitive structures with a sentential subject, the data discussed in Questions 8, 12, and 13 could not be accounted for. In all these cases, begin behaves differently from Vs like seem and happen. (For the argument in Question 13, once more note the distinction between VP deletion and whatever deletion rule has applied in (i).) If Perlmutter is correct in holding that deep structure constraints are at work in the data of the arguments in Questions 9, 10, and 11, then this hypothesis also fails to account for these data.
However, if the constraints at issue are not deep structure constraints, these data present no problem for the intransitive-begin hypothesis.

Finally, the hypothesis that begin can occur in transitive deep structures (where the object may or may not be sentential) can account for all the data in Questions 8 through 13.

Considering all the data in Perlmutter's article, in what deep structures would you now say begin must be able to appear?

*Question 17. Zeke began to work, as Perlmutter shows, could be derived from either deep structure. Does it in fact have two readings? Consider (i) and (ii).

(i) Zeke made his decision and quickly began to work.

(ii) Unexpectedly the strike was over, and it turned out that Zeke began to work again Tuesday morning.

If you see a semantic distinction, what is it? If not, can one of the deep structures be ruled out in some way?

**Question 18. Consider Ss like The sermon began. What deep structure would you propose for this S? Is there any syntactic evidence for a raising rule from object position in an embedded S to subject position in the matrix S?

*Question 19. In both transitive and intransitive structures the complement V has a semantic restriction on it that accounts for the ungrammaticality of the bad Ss in (i)-(vi). What is this semantic restriction? Is this restriction shared by any other syntactic constructions?

(i) I began to understand the answer.

(ii) *I began to know the answer.

(iii) I began to be polite once in a while.

(iv) *I began to be tall once in a while.

(v) The sky began to turn red.

(vi) *The sky began to be red.

HOMEWORK PROBLEMS

1. Classify each of the following sentences as to whether begin is transitive or intransitive in its deep structure.

(1) Finally some headway began to be made.

(2) Bill began the job.

(3) It began to thunder horribly.

(4) We all have something to do, so let's begin now.

(5) She went through a period in which everything irritated her; even his humming softly to himself began to annoy her.

Justify your answers if you can, or at least discuss the alternatives.

II. Perlmutter ends his article by suggesting that various Vs, including the modal Vs (must, may, might, will, would, shall, should, can, could), occur in both transitive and intransitive deep structures. Certainly, many modal Vs can be ambiguous, as shown in (1).

(1) John must wear those shoes every day;
   a. the doctor ordered him to. (obligation—root reading)
   b. just look at how worn out they are! (probability—epistemic reading)

It has been claimed that the root reading of modals is transitive while the epistemic reading is intransitive. Consider the Ss in (2) and (3).

(2) These plants must be watered every day:
   a. otherwise they'll die.
   b. just look how green they are!

(3) There must be two doors on the second floor;
   a. otherwise the building won't pass fire regulations.
   b. how else could the thief have escaped?

How are (2) and (3) relevant to the proposal that root readings arise from transitive deep structures? (Review Perlmutter's arguments about the synonymy of active/passive S pairs and about there sentences before beginning this problem.) If modals were to occur only in one structure underlingly, to what could we attribute the ambiguity of the Ss given here?

SUGGESTED READINGS

Bresnan, J. 1972. Theory of complementation in English syntax. Unpublished doctoral dissertation. MIT. (See Chapter 3 for arguments for raising into subject position from a sentential object, as in Question 7.)


Lakoff, R. 1972. The pragmatics of modality. CLS 8.229-246. (For the analysis of modals.)
ON DECLARATIVE SENTENCES

John Robert Ross

Introduction. In this article Ross proposes that every S which does not have an overt performative V with a first person subject and, usually, a second person object of some kind is embedded in the deep structure in an S which does have a performative V and the requisite first person subject and second person object. In this proposal a rule called Performative Deletion (which is, perhaps, governed by the matrix V) optionally deletes all of the matrix S except the embedded S. Overt performatives result when Performative Deletion has not applied.

The proposal of deep performatives for every S regardless of whether such performatives appear in surface structure represents a giant step toward abstraction in syntax. In this proposal the transformational mechanisms are working on structures which are far removed from direct observation. Ross' movement toward such abstractions was one of the early forces leading linguists to consider proposing various kinds of abstract constructions which are never manifest in surface structure. For example, the proposal of higher abstract verbs has been used to account for many syntactic and semantic facts, such as the occurrence of subjunctives in independent clauses in Spanish by Lakoff (1968), a proposal reached independently and contemporaneously with Ross', and the association of presuppositions with certain sentences in English by Morgan (1969).
Begin, like try, condescend, and refuse, would manifest the like-subject constraint, requiring that the subject of the embedded S be identical to the subject of the matrix S in deep structure. Under this analysis the deep structure of (1) would look something like

```
(4) S
   NP
   V
   NP
   Zeke began
   V
   NP
   NP
   work
```

Equi-NP Deletion and other transformations which apply in the derivation of sentences with try and like verbs would apply here as well to produce the correct surface structure of sentences like (1).

In this paper evidence is presented to show that begin occurs in both types of structures in deep structure.

There is a variety of evidence that begin occurs in deep structure as an intransitive verb which takes abstract subjects, as in (2).

First, we note that it takes nominalized sentences as subject in such sentences as

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(5) The doling out of emergency rations began.
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Begin must occur in deep structures like (2) if sentences like (5) are to be accounted for.

The second piece of evidence that begin is an intransitive verb like seem comes from consideration of sentences like

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(6) There began to be a commotion.
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Sentences like (6) would be impossible if begin occurred only in structures like (4), for to generate them from such structures it would be necessary for there to be the subject of begin in deep structure, but there is independent evidence that there is not present in deep structures at all, but rather is introduced by a transformation. If, on the other hand, begin occurs in deep structures like (2), sentences like (6) are easily accounted for. The there-insertion rule applies in the embedded sentence, producing a structure like

```
(7) S
   NP
   VP
   it
   S
   V
   began
   NP
   VP
   there
   be a commotion
```

On the second cycle it-replacement substitutes there for it in the matrix sentence, bringing be a commotion to the right of began and under the domination of that VP.

A third piece of evidence for the existence of deep structures like (2) comes from sentences like

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(8) It began to rain.
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in which the dummy subject it of weather verbs like rain occurs as the surface subject of begin. If begin occurred only in deep structures like (4), we would have to postulate this dummy it as the deep subject of begin. If begin occurs in deep structures like (2), the embedded subject will be the sentence it rain and the correct surface structure will result automatically from rules that are independently motivated.

Fourth, we note the synonymy of the sentences

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(9) a. The noise began to annoy Joe.
b. Joe began to be annoyed by the noise.
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If these sentences were derived from deep structures like (4), we would expect them to exhibit some difference in meaning, since the deep subject of (9a) would be the noise, while that of (9b) would be Joe. With a deep structure like (2), however, (9a) and (9b) have the same deep structure and differ only in that the passive transformation has applied in the embedded subject of (9b) but not in (9a). Their synonymy is thereby accounted for.

A stronger argument of this type for the existence of deep structures like (2) can be based on the distributional properties of lexical items like recourse, heed, and headway. These lexical items are not freely occurring nouns; we must exclude such sentences as

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(10) a. *I like heed.
b. *Heed is nice.
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and many others. The restriction on the occurrence of these nouns can be stated as follows: in deep structure they occur only in the fixed phrases have
recourse (to), pay heed (to), and make headway. Note that recourse, heed, and headway must be dominated by an NP node in these fixed phrases, since the passive transformation, which refers to NP, can apply to them to produce such sentences as

(11) Recourse was had to illegal methods.
(12) Heed was paid to urban problems.
(13) Headway was made toward a solution.

Now, since recourse, heed, and headway occur in deep structure only in the fixed phrases have recourse, pay heed, and make headway, they cannot be the subject of begin (or of any other verb) in deep structure. This being the case, if begin occurred exclusively in deep structures like (4), there would be no way to account for the grammaticality of sentences like

(14) Recourse began to be had to illegal methods.
(15) Heed began to be paid to urban problems.
(16) Headway began to be made toward a solution.

If begin occurs in deep structures like (2), however, these sentences are automatically accounted for by rules that are independently motivated. The passive transformation, which applies to produce sentences like (11), will apply in the embedded sentence, yielding a derived structure like

(17) \[
\begin{align*}
S & \quad \text{VP} \\
NP & \quad \text{S} \\
& \quad \text{began} \\
NP & \quad \text{Recourse} \\
& \quad \text{be had to illegal methods}
\end{align*}
\]

On the second cycle it-replacement substitutes the NP recourse for the it in the matrix sentence, bringing the rest of the embedded sentence to the right of began and under the domination of that VP. If begin occurs in deep structures like (2), the grammaticality of sentences like (14) through (16) is automatically accounted for.

There is abundant evidence, then, that begin occurs in deep structures like (2), in which it is an intransitive verb with an abstract (sentential) subject. We will now proceed to show that begin also occurs in deep structures like (4). The argument will proceed in several steps. First we will show that begin takes animate subjects in deep structure; this would be impossible if it occurred exclusively in deep structures like (2). Then we will see that begin occurs in sentences in whose deep structure it must have both an animate subject and a complement sentence, as it does in (4). Finally we will indicate the motivation for the NP node which dominates the complement sentence in (4).

That begin takes animate subjects in deep structure follows from the fact that it forms agentive nominalizations as in

(18) Pete is a beginner.

Verbs like seem and happen which take only abstract subjects in deep structure do not occur in such nominalizations.

(19) a. * Pete is a seer.
   b. * Pete is a happener.

There is also evidence that begin occurs in deep structures with both an animate subject and a complement sentence, as in (4). As was mentioned above, verbs like try, condescend, and refuse manifest the like-subject constraint, requiring that the subject of a sentence embedded directly beneath them be identical to their own subject in deep structure. For this reason the deep structure of sentences like

(20) I tried to begin to work.

must be something like

(21) \[
\begin{align*}
S & \quad \text{VP} \\
NP & \quad \text{V} \\
& \quad \text{NP} \\
& \quad \text{it} \\
& \quad \text{S} \\
& \quad \text{began} \\
& \quad \text{be had to illegal methods} \\
NP & \quad \text{I} \\
& \quad \text{try} \\
& \quad \text{NP} \\
& \quad \text{it} \\
& \quad \text{S} \\
& \quad \text{begin} \\
& \quad \text{it} \\
& \quad \text{S} \\
& \quad \text{work}
\end{align*}
\]
But in (22) the like-subject constraint is not satisfied, for the subject of the sentence beneath try is the entire NP containing an embedded sentence, and is therefore not identical to the subject of try. Since the like-subject constraint is not satisfied, an ungrammatical sentence must result. For this reason (21) rather than (22) must be the deep structure of (20). The grammaticality of (20) therefore shows that begin occurs in deep structures like (4).

A similar argument for deep structures like (4) is provided by the grammaticality of sentences like

(23) I forced Tom to begin work.

Verbs like force require that the subject of a sentence embedded beneath them be identical to their own object in deep structure. The deep structure of (23) must therefore be something like

(24) S
   / \   \
  NP  VP
    /\   /
   V NP
    /\   /
   NP Tom
      /\   /
     V NP
      /\   /
     VP Tom

Here, begin occurs without an overt object, and with a meaning like that of such verbs as eat and read when they have no overt object. If begin is a transitive verb, it can be marked for object deletion in the same way that eat and read are. This behavior is thereby accounted for in the same way in all such cases. If we are to achieve this parallelism, however, begin must take objects in deep structure.

To summarize briefly, we have seen that, on the one hand, begin occurs in deep structures like (2) and that, on the other, it takes animate subjects and object complements, as in (4). We will call the former the intransitive begin, and the latter the transitive begin. No grammar of English can be considered adequate unless it provides for the occurrence of begin in both types of deep structures.

This conclusion raises several questions which we will merely mention here without giving a satisfactory answer to them. The first question concerns what restrictions each begin imposes on its subject, the kind of complements it takes, and so on. For example, all verbs which manifest the like-subject constraint require animate subjects. Since sentences like (3) must be ruled out as ungrammatical, the transitive begin must also manifest the like-subject constraint. We therefore expect the transitive begin to require animate subjects. This would mean that in all sentences showing that begin occurs in deep structures with an animate subject and a complement sentence, as in (4).

Additional evidence for deep structures like (4) comes from imperative sentences like

(25) Begin to work.

Since imperatives require a second-person subject in deep structure, the grammaticality of sentences like (25) shows that begin takes animate subjects and complements in deep structure, as in (4).

Let us now turn to the motivations for another aspect of deep structures like (4) — the NP node which dominates the embedded sentence. In this connection we notice that begin takes NP objects, as in

(26) Sam began the job.

which predictably undergo the passive transformation:

(27) The job was begun by Sam.

If these sentences are to be accounted for, begin must take objects in deep structure.

A slightly more intricate argument for the transitivity of begin in deep structure comes from such sentences as

(28) Mark began enthusiastically, but he got tired by noon.
in which the subject of begin in surface structure is inanimate we are dealing with the intransitive begin. That is, sentences like

(29) Oil began to gush from the well.

in which begin has an inanimate subject in surface structure must derive from a deep structure like (2) rather than from one like (4). While we will not fully test this hypothesis here, there is some evidence that it is correct. Note that in sentences which we have shown to contain the transitive begin, the verb phrase beginning with begin can be replaced by do so.15

(30) Warren tried to begin to work and Jerry tried to do so too.
(31) I forced Warren to begin to work and Paul forced Jerry to do so.
(32) Begin to work and do so at once.

In sentences which contain the intransitive begin, however, the verb phrase beginning with begin cannot be replaced by do so:

(33) * Heed began to be paid to urban problems and attention did so too.
(34) * There began to be a commotion and there did so at four o’clock.

This accords with a valid generalization about English: no verb which occurs in deep structures like (2) in which it takes abstract subjects can be replaced by do so. Now, if the transitive begin requires animate subjects, and all sentences like (29) in which begin has an inanimate subject in surface structure are consequently instances of the intransitive begin, it should be the case that in such sentences the verb phrase beginning with begin cannot be replaced by do so. This seems to be the case, since we do not get sentences like

(35) * Oil began to gush from the well and water did so too.16

While this is not conclusive, it can serve to illustrate the kinds of questions that need to be investigated in order to determine when we are dealing with the transitive begin, and when with the intransitive one.

The other major question that arises is that of the relation between the transitive and the intransitive begin. It has been the purpose of this paper to show that begin occurs in two distinct kinds of deep structures. The question will be left open here as to whether we are dealing with two distinct verbs, a single verb with two distinct sets of contextual features, or a single verb whose occurrence in these two kinds of deep structures is predictable in some way.

The properties of begin that have been pointed out here are shared by such verbs as start, continue, keep, and stop, as well as by verbs which appear to be quite different. The verb threaten, for example, must be an intransitive verb that occurs in deep structures like (2) because the following sentences are grammatical:

(36) Thére threatened to be a riot.
(37) It threatened to rain.

On the other hand, it must occur in deep structures like (4) because these sentences are grammatical:

(38) I tried to threaten to resign.
(39) I forced Tom to threaten to resign.
(40) Threaten to resign.

The occurrence of threaten in both kinds of deep structures produces palpable ambiguities. For example, the sentence

(41) The students threatened to take over the administration building.

has two quite different readings. With the transitive threaten, it means that the students made threatening statements to the effect that they would take over the administration building. With the intransitive threaten in deep structure, (41) might be used to describe a scene in which a mob of students surged toward the administration building: on this reading it does not entail anyone’s making any threats at all.17

The question of the range of verbs which are like begin in occurring as both a transitive and intransitive verb in deep structure, like the question of how the two verbs are to be related, if at all, will be left open here. It appears, however, that the phenomenon of transitive–intransitive verb doublets is quite widespread, and extends into the modal system. It has been observed by grammarians that modal verbs like must, for example, are systematically ambiguous.18 A sentence like

(42) Clyde must work hard.

can express some obligation on the part of Clyde to work hard, or it can be paraphrased as: It must be the case that Clyde works hard. This suggests that must is a transitive–intransitive verb doublet like begin in deep structure, occurring in deep structures like (4) on the former reading and in deep structures like (2) on the latter. Vetter (1967) has shown that this also is the case with need. If these analyses are correct, and it turns out that there are syntactic facts in English which can be accounted for only if modals are transitive–intransitive verb doublets in deep structure, this will constitute evidence for the hypothesis argued in Ross (1967) that there is no [auxiliary] constituent in deep structure, and that the so-called "auxiliary verbs" are real verbs in deep structure.

NOTES

1. The subject of this paper is included in my doctoral dissertation Deep and Surface Structure Constraints in Syntax (MIT, 1968), where some of the issues raised here are discussed more fully. I am indebted to many friends and colleagues for their helpful...
comments and criticism — particularly Stephen Anderson, George Bedell, Noam Chomsky, George Lakoff, and Haj Ross. Errors of course are my own. I am also indebted to the American Council of Learned Societies for support through a graduate fellowship in linguistics and to the National Science Foundation for support through grant GS-2005 to Brandeis University.

2. The theoretical framework presupposed here is basically that of Chomsky (1965) and Rosenbaum (1967). For more recent developments in this theory, see the other papers in this volume and the references cited there.

3. All tree diagrams given here are grossly oversimplified; I have omitted everything that is not relevant to the points under discussion.

4. For a justification of this formulation of it-replacement, see Lakoff (1966a).

5. For a discussion of the like-subject constraint and the evidence that it is a deep structure constraint, see Perlmutter (1968).

6. There behaves like an NP with respect to transformational rules in that it inverts in questions (Was there a commotion?), shows up in tag questions (There was a commotion, wasn’t there?), shows up with so (Joe said there would be a commotion, and so there was), undergoes it-replacement (We expected there to be a commotion), and undergoes the passive transformation (There was expected to be a commotion). But there cannot occur everywhere that NPs occur in deep structure; we must be able to rule out as ungrammatical such sentences as *I like there. *There is nice, and many others. It is difficult to see how this could be done if there occurs in deep structures. If there is introduced by a transformation, on the other hand, we can correctly rule out such deviant sentences by stating the constraints on the distribution of there in the rule that introduces it. We will now show that these constraints cannot be stated in deep structure, and must be done by means of a transformational rule. There can occur only with a small number of intransitive verbs (such as be, in the examples already cited, and a few others, as in There ensued a controversy). There cannot occur with kill, for example, so alongside A policeman killed a demonstrator we do not get *There killed a policeman a demonstrator. Now, the passive transformation introduces be, which can co-occur with there. And if the structure underlying A policeman killed a demonstrator has been transformed by the passive transformation into the structure underlying A demonstrator was killed by a policeman, which contains be, then the corresponding sentence with there is grammatical: There was a demonstrator killed by a policeman. Whether or not there can occur in such sentences cannot be determined on the basis of their deep structures alone, for their deep structures do not contain a verb with which there can co-occur. It is only if the passive transformation has applied, introducing be, that these sentences can contain there. In other words, the question of whether or not there can appear in certain sentences cannot be decided on the basis of their deep structures, but only after the passive transformation has applied. For this reason the constraints on the distribution of there cannot be stated in deep structure. We must conclude that there is not present in deep structure, but rather is introduced by a transformation.

7. Some speakers also allow the fixed phrase take heed (of). Note in passing that these fixed phrases can serve as indicators of environments in which particular verbs can be deleted. For example, Ray Doughtery has noted that although adverbs like by tomorrow cannot occur with verbs in the past tense (*We ordered a bicycle by tomorrow), sentences like We needed a bicycle by tomorrow are perfectly grammatical. This suggests that this sentence is derived from a deep structure with an additional verb in it: We needed to V a bicycle by tomorrow, in which by tomorrow is not modifying needed, which is in the past tense, but rather the additional verb, which is not. On semantic grounds, the appropriate verb would seem to be have, so that the sentences in question would be derived from the structure underlying We needed to V a bicycle by tomorrow, by deletion of the verb have. Fixed phrases like have recourse (to) can be used to show that have is the correct choice here, since have must be able to undergo deletion in this environment anyway in order to account for the grammaticality of sentences like We needed recourse to some higher authority. This sentence must be derived from the structure underlying We needed to have recourse to some higher authority, since recourse can occur only as the object of have. The two motivations for an underlying have in this environment explain the grammaticality of We needed recourse to some higher authority by tomorrow.

8. This was pointed out by Chomsky to show the incorrectness of any analysis under which a passivized sentence like

(i) The Mohawks were defeated by the Samoans.

has a deep structure like

(ii)

in which the surface subject of the passivized sentence (i) is the subject in deep structure of a higher sentence with the verb be. This analysis is incorrect, as (11) through (13) show, because recourse, heed, and headway occur in deep structure only in certain fixed phrases and therefore cannot be the subject of anything in deep structure. But the analysis of the passive under which (ii) is the deep structure of (i) would require recourse, heed, and headway to be the subject of be in the deep structures of (11) through (13). This analysis is therefore incorrect. Sentences (11) through (13) constitute extremely strong evidence that there is a passive transformation in English which takes deep structure objects and makes them into subjects in surface structure.

9. Evidence for this is to be found in Perlmutter (1968).

10. Evidence for this is to be found in Perlmutter (1968).

11. It might be argued that there are restrictions on the class of NPs that can be the objects of begin of a sort that make it necessary to derive these objects from more abstract underlying structures. Regardless of whether or not this is the case,
they must still be dominated by an NP node, as is shown by their ability to undergo the passive transformation in sentences like (27).

12. For some discussion of object deletion of this kind and its relevance to semantic interpretation, see Katz and Postal (1964, pp. 79-84) and Chomsky (1965, p. 87).

13. We have shown that begin takes objects in deep structure, but strictly speaking, we have not shown that its complement sentences are object complements. That is, we have not shown that a possible deep structure of (1) is not

(iii)

rather than (4). Since we have shown begin to appear in deep structures like

(iv)

however, it is clear that phrase structure rules of the kind justified by Rosenbaum (1967) will produce deep structures like (4) anyway, since these phrase structure rules provide for noun phrase complementation by means of a rule that introduces S under NP. The question therefore is whether begin occurs in deep structures like (iii) in addition to deep structures like (4) and (2). The answer to this question may well turn out to be negative, even though sentences with begin fail to satisfy Rosenbaum’s criteria for noun phrase complementation. The fact that we do not get passive sentences like *To work was begun by Zeke is irrelevant, as Robin Lakoff has pointed out, since even with verbs which normally passivize we do not get passives when the subject of the embedded sentences is identical to the subject of the matrix sentence. Thus expect, for example, takes object complements and normally passivizes, yielding sentences like For Mike to win was expected by everybody. But if the matrix and embedded subjects are the same, no passive results: *To win was expected by Mike. Since the begin that appears in structures like (4) requires that the embedded subject be identical to the matrix subject, we will never get a passive like *To work was begun by Zeke. For this reason the lack of a grammatical passive here tells us nothing about whether begin takes object complements. George Lakoff has argued that the lack of grammatical pseudo-cleft sentences like *What Zeke began was to work is also not a valid argument against noun phrase complementation with such verbs, leading him to call into question the existence of intransitive verb phrase complementation, as in (iii). See Lakoff and Ross (in preparation) for these arguments. However this should turn out, it is only tangentially relevant to the point of this paper, which is to show that begin occurs both as a verb with abstract subjects, as in (2), and as a verb with animate subjects and complement sentences, as in (4) or (iii) or both.

14. Garcia (1967) points out that verbs like begin lack selectival restrictions on their subjects, and that sentences like (9a) and (9b) are synonymous. She concludes that on formal grounds begin should be treated as an intransitive verb that takes abstract (sentential) subjects, analogous to such verbs as seem and happen. She goes on to say that this solution does not accord with our intuitions about such sentences as John began to read the book and offers this as a case where the formally motivated solution and the intuitively correct solution are in conflict. In this paper evidence has been presented to show that no grammar of English is adequate if it does not allow begin to occur in two distinct kinds of deep structures. As a result the issue raised by Garcia does not present a problem.

15. For discussion of do so, see Lakoff and Ross (1966). This topic is explored in considerably greater depth in Anderson (1968).

16. Sentence (35) may be possible if did so is taken as having replaced gushed from the well, but did so cannot have replaced began to gush from the well, which is the reading that is of interest here. For this reason I have starred the sentence.

17. I am indebted to Wayles Browne for pointing out (41) to me. Note in passing that there must be some additional constraints on sentences with threaten, for we do not get sentences like *Recourse threatened to be had to illegal methods.

18. Within a generative framework, the remarks of Hofmann (1966) are very suggestive.
REFERENCES FOR 'THE TWO VERBS BEGIN'


QUESTIONS

*Question 1. Perlmutter's first argument is based on the fact that begin can appear with a nominalization as its surface subject. He concludes that begin must be able to appear with a sentential subject in the deep structure. What assumption is Perlmutter making about the source of the subject NP in (i)?

(i) The doing out of emergency rations began.

(After you have read Chomsky's paper in this volume, come back to this question and test whether Perlmutter's assumption is justifiable. Consider Ss like (ii)-(iv), which Perlmutter does not mention.)

(ii) Then the hot weather began.

(iii) Then our troubles began.

(iv) Then the meal began.

Given Perlmutter's assumption, could the null hypothesis account for (i)?

**Question 2. The second argument rests on the fact that existential there can appear as the surface subject of begin. (Read footnote 6 carefully and try to reconstruct for yourself an argument that this there cannot appear in the deep structure. Note in particular the relevance of the fact that this there can appear in passives.) If there is inserted transformationally as Perlmutter argues, what is the simplest statement of the structural description of There-Insertion, considering only simple sentences? (By simple sentences we mean those with only one verb, with or without modals, perfective have, progressive be, and/or passive be.) How would the structural description of There-Insertion have to be changed in order to account for (i) if we assume the null hypothesis?

(i) There began to be a commotion.

Be sure you note the relevance of pairs such as:

(ii) a. There was a commotion.

(ii) b. There began to be a commotion.

(iii) a. *There cried a little girl.

(iii) b. *There began to cry a little girl.

Could the null hypothesis account for pairs such as (ii) and (iii) in an explanatory way? Does begin behave like modals, perfective have, progressive be, and/or passive be with respect to There-Insertion?

Considering only two possible deep structures for begin, one intransitive with a sentential subject, and one transitive with a
sentential object, and noting that there cannot be present in the deep structure, Perlmutter concludes that Ss like (i) must have a sentential subject. Why can't (i) have a deep sentential object? (Try writing the deep tree for (i) with a sentential object and see what problem arises.) What assumption is Perlmutter making about deep structure nodes in general with respect to lexical items? Note that Perlmutter refers to a rule of It-Replacement. This rule is known by various names, including Subject Raising and Raising into Subject Position. Basically, the rule moves the subject of a clause which is acting as a sentential subject of the next higher clause into subject position in that higher clause, and moves the remaining elements of the lower clause to the end of the higher clause. Some linguists have found it useful to separate this rule into two steps—a rule which extraposes sentential subjects (a rule which is needed independently) followed by a rule which moves the subject of the extrapoosed clause into subject position in the next higher clause. Since sentences with begin (such as (iv)) in which only Extraposition has applied are out, there is no evidence here that two rules have applied in (i).

(iv) *It began (that) there was a commotion.

Question 3. The third argument is based on the fact that the dummy subject it of weather V's can appear with begin precisely when begin is followed by a weather V. How is this argument similar to that based on existential there? Could the null hypothesis handle these facts? What constraint on the distribution of dummy it will be violated if we propose for (i) a deep structure with a sentential object?

(i) It began to rain.

*Question 4. The next argument is based on the fact that active and passive S pairs with begin are synonymous, as in (i).

(i) a. The noise began to annoy Joe.
   (i) b. Joe began to be annoyed by the noise.

If begin is a main V, why can't (i-b) be directly derived from (i-a) by Passive? What is the environment for Passive according to (the assumption of) Perlmutter? What problem in the analysis of these active/passive pairs arises if begin is in a transitive structure underlyingly? If, instead, begin is an auxiliary, can (i-b) then be derived from (i-a) by Passive? (Compare begin to modals and other auxiliaries with respect to Passive.)

*Question 5. The final argument that begin can be an intransitive V uses the fact that words like recourse, heed, and headway appear in simple active Ss only as the objects of the Vs have, pay, and make, respectively. They can appear as the subject of begin only if begin is followed by be had, be paid, or be made. Perlmutter says that if these NPs are generated in object position in a sentential subject of begin and if Passive then applies on the lower cycle, followed by Raising into Subject Position on the higher cycle, his sentences in (14)-(16) are accounted for.

If you were to consider only simple Ss, how could you describe the distribution of NPs like recourse, heed, and headway? (Consider both active and passive Ss.) Should the constraints on their distribution be stated at the deep structure level or at some derived level? If begin occurred only as a transitive V in the deep structure, in what way would the statement of distribution of these NPs have to be complicated? What does this argument have in common with the argument based on active/passive pairs? What does this argument have in common with that using existential there and that using dummy it?

Question 6. The foregoing five arguments can be grouped into two types. One type is of the form: a given element can appear in deep structure or can be inserted transformationally only in a particular environment. Thus, if that element appears in any other environment in the surface, it must have been moved there. The other type is of the form: certain structural phenomena are accounted for by particular transformations. Thus, whenever those structural phenomena occur, the given transformation(s) must have applied. Group Perlmutter's five arguments into these two types.

Question 7. The null hypothesis can account for the data on there Ss, dummy it Ss, active/passive pairs, and recourse, heed, and headway Ss by treating begin just like an Aux. But the null hypothesis cannot account for (i).

(i) The doling out of emergency rations began.

On the other hand, the hypothesis that begin is underlyingly transitive with a sentential object cannot account for any of the data mentioned earlier if we accept Perlmutter's unstated assumption (which you uncovered in answering Question 2) that deep structure subject node cannot be empty. If, however, we were to allow deep structure subject nodes to be empty, this hypothesis could account for all the data (there Ss, dummy it Ss, etc.) except (i) by giving begin an empty deep subject and a derived surface subject. Under this analysis we would have to propose a rule which raises the subject of a sentential object into the subject position in the next higher clause. But even with these modifications, (i) cannot be accounted for by this analysis.

Finally, the hypothesis that begin is underlyingly intransitive with a sentential subject can account for all the foregoing data