THE PASSIVE CONSTRUCTION IN ENGLISH

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0. The aim of this paper[1] is to offer a more adequate alternative to the present treatment of English passives and justify it on both descriptive and explanatory grounds.

1. It has been recognized for a long time that English passives involve some sort of transformation, i.e. that they exhibit a regular structural relation to the correponding active forms. Our problem is to find the most adequate formal device to represent this relation within the framework of current syntactic theory.

The earliest version of passive transformation was given by Chomsky in essentially the following form:

(1) NP, Aux, V_t, NP', X $\rightarrow$ NP', Aux+be+En, V_t, by+NP,X.

Although this seems intuitively correct, it presents several difficulties when its full implications are examined in the light of the present theory of generative grammar. In particular, the derived phrase structure of the transform is not very clear, since no definite phrase structure can be assigned to the agentive *by* phrase, which is generated ex nihilo.[2] Katz and Postal avoided this difficulty by deriving the passive from an underlying structure with a passive marker: by+*Passive*, which they consider to be an expansion of the Manner Adverbial. The syntactic motivation for this treatment comes from the fact that the verbs that can

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[1] This is a revised and expanded version of my paper, ' The Passive Construction in English,' read before The International Seminar in Linguistic Theory (Tokyo, Aug. 25 through Sept. 5, '66). I am very much grateful to Prof. N. Chomsky for his valuable comments on the original version of this paper. This work was in part supported by ELEC.

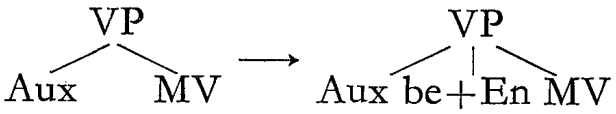
[2] This has been pointed out by Lees (*The Grammar of English Nominalizations*, p. 31) and others.

undergo passivization are restricted to those that take manner adverbials freely.[1] By making use of this passive marker, it is possible to dispense with subcategorial restrictions on the Verb in the structure index of the passive transformation, since it can be nontransitive as well as purely transitive, provided that it co-occurs with this marker.[2] Thus the recent formulation by Katz-Postal-Chomsky would look like this:[3]

(2) NP, Aux, V, X, NP′, Y, by, Passive, Z→
NP′, Aux+be+En, V, X, Y, by, NP, Z
where X does not contain an NP.

The identification of the *by* phrase as a manner adverbial, which is an important feaure of the new formulation, would seem to require further investigation, since there may be passive forms of verbs which usually do not co-occur with manner adverbials, and the notion of 'Manner Adverbial' itself is still not very clear. However, even if this identification should prove correct, the underlying structure available for the passive transformation does not seem to be fully adequate. In the Katz-Postal-Chomsky formulation the status of the adjoined passive formative be+En is not sufficiently clear. Lees suggests[4] that it be considered as part of Aux, but this does not follow automatically from the rule. If the process is one of adjunction, the derived phrase structure would be:

(3)

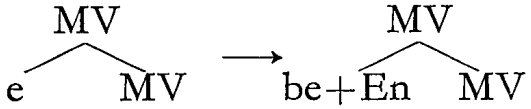


However, simply adding be+En by transformation does not seem plausible partly for the reason stated in 5 below, and partly because wherever MV can occur, be+En can also occur. Thus, in a number of transformations where Aux constituents like have+En are not permitted, be+En is quite free to occur (e.g. I forced

[1] Katz-Postal, *An Intergrated Theory of Linguistic Descriptions*, p. 72; pp. 148–9.
[2] Katz-Postal, *op. cit.*, p. 149; Chomsky, *Aspects of the Theory of Syntax*, pp. 104–5.
[3] Cf. Chomsky, *op. cit.*, p. 104.
[4] Less, *op. cit.*, p. 34.

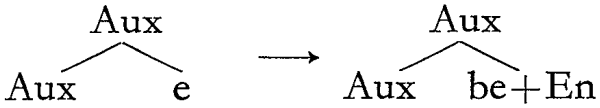
John to be examined by the doctor / *I forced the doctor to have examined John / I hate you to be insulted / *I hate you to have read the book / I caused John to be examined / *I caused John to have read the book). In some of these cases it might be possible for the embedded sentences to retain have+En (e.g. I asked him to have read the book before I got there). But the point is that it is simpler to consider be+En as part of MV rather than as part of Aux, in view of its overall distribution. If be+En is expanded as part of MV instead of being introduced by transformation, there would be no need to specify the term: (be+En) MV in the structure indices of the transformations referred to above, since the term: MV would suffice for these cases. Chomsky has pointed out[1] that in general a category A is equivalent to e+A or A+e, where e is an identity element, so that it is possible to interpret (2) as follows:

(4)



However, as (2) is now stated, it can also be interpreted as:

(5)



And there seems to be no general or automatic way to choose between (3), (4), and (5), unless we burden (2) somewhat by reformulating its structure index, e.g. in the following manner:

(6) NP, Aux, [e, [V, X, NP′, Y, by, Passive]$_{MV}$]$_{MV}$, Z

Since this type of difficulty arises whenever adjunction is involved, it seems to me that it should be avoided as far as possible. At any rate it seems ad hoc and unsatisfactory to introduce unnecessary category labels (like MV), simply for the purpose of assigning correct phrase structure to the transform.

Another difficulty with (2) with respect to descriptive adequacy comes from the fact that be+En is not the only formative that is used in forming passive sentences. Consider sentences like the following:

[1] At a session of the Seminar referred to in footnote 1,. p. 89

The door got shut (by someone) / The mail gets delivered every day / The treasure got found by the skin divers / He got seen by the police / The house is getting built / He will get killed by the snake / I have gotten disappointed by Bill before / I got forced to marry the girl by her father.

In view of sentences like these it seems clear that get+En behaves pretty much in the same way as be+En and that get+En must be extracted as another passive formative.[1] In line with the current treatment of passives, it would be necessary to set up another passive transformation,[2] identical with (2) except that the element to be added is now get+En instead of be+En. By doing so, however, we cannot express the fact that these two putative passive transformations involve essentially the same process, and thus an important generalization is left unexpressed.

A formulation free from the difficulties discussed above (and also meeting two possible general conditions on transformation[3]) would be possible if we regard be+En and get+En as elements that take a sentential complement, and derive passive forms from an underlying structure in which the passive formatives are followed by a sentential complement S. Incidentally it may be noted that under this interpretation the passives in English have essentially the same underlying structure as those in Japanese, which are also derived from an underlying structure in which the passive formative *-rare* takes a sentential complement S (e.g. boku wa [ame ga hur ta]$_S$ rare ta→boku wa [ame ni hur]$_S$ rare ta / boku wa [hanako ga boku o mi ta]$_S$ rare ta→boku wa [hanako ni mi]$_S$ rare ta).

2.1. In order to provide an appropriate framework within which to discuss the status of passive constructions, let us tentatively adopt the following base rules (to be revised later):

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[1] Passives with *get* have been extensively treated in traditional grammars, though not in the literature on transformational grammars, to my knowledge.

[2] We cannot consider be+En and get+En simply as variants of the same passive formative, since they obviously differ in meaning.

[3] See 5 below.

(7) 1. S→NP+VP
2. VP→Aux+MV
3. MV→{Pass#S# / MV$_1$ (Loc) (Time)}
4. MV$_1$→{be+Pred / V(Prt) (NP) (Cmp) (Man)}
5. Cmp→{#S# / (PrepPhr) (PrepPhr)}
6. Man→(Manner) (Ag)
7. Ag→by+D

(Note: Prt=particle; Cmp=complement; PrepPhr=preposition phrase; Pass=passive formative, here tentatively comprising both be+En and get+En; Ag=agentive; D=a dummy, analogous to Katz and Postal's *Passive*[1]).

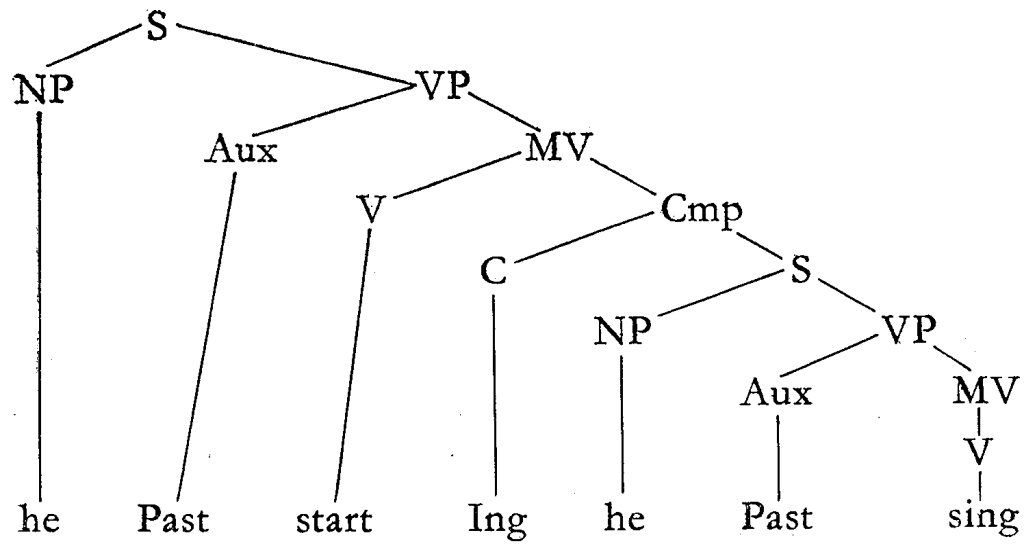
Before we proceed to discuss Rule 3, a few further comments on some of the above rules will be necessary. Rule 6 expands Man into a manner adverbial proper and an agentive *by* phrase. This seemed necessary since they often co-occur within a single sentence and their mutual relationship is not one of coordination (as in: He was treated [badly]$_{\text{Manner}}$ [by the enemy]$_{\text{Ag}}$). In Rules 5 and 6 Man and Cmp are expanded into two optional elements. However, the general theory will guarantee that one or both of the optional elements must be chosen, since base rules (i.e. context-free branching rules) do not permit deletion.

2.2. Next we will take up Rule 3. Although this bifurcation of MV is a solution that immediately suggests itself, such a proliferation of base rules solely for the sake of passive constructions might seem undesirable. In particular, one might suggest that it is simpler to identify get+En#S# and be+En#S# as instances of V#S#, which is a special case of V+Cmp. Under this interpre-

[1] In the original version of this paper, I used a dummy symbol *Subject*, generalizing Katz-Postal's *Passive*, for the reason stated later in 4.2. Chomsky has pointed out that all dummy elements may be written with one symbol, since each dummy is sufficiently identified by its position in the base.

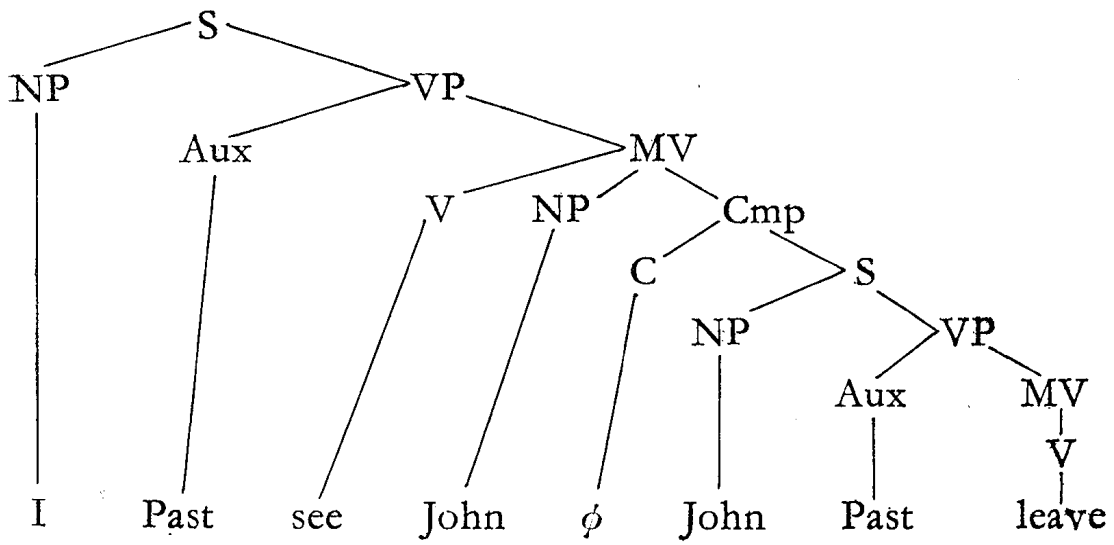
tation, which makes Pass#S# unnecessary, get+En and be+En would be considered as Verbs and listed in the lexicon as such. This view seems plausible, as it reveals the essential similarity of a seemingly unique pattern (Pass#S#) to a more general pattern of verbs taking sentential complements. It is true that we cannot regard the formatives be+En and get+En as Verbs in their entirety, since they would then constitute an exception to the general affix-switching rule with *aff* shifted to a wrong position, as in be+Ing+[get+En]$_V$→be+[get+En]$_V$+Ing. But the above suggestion seems particularly plausible for get+En, since *get* alone is a V although get+En is not. Indeed, on closer examination, the similarity between *get* (En) and verbs taking sentence complements becomes more apparent. Let us take a construction like *start crying*. It is clear that a complementizer like *Ing* is required by, and is hence a feature of, the verb. Thus we might assume that in general a sentential complement takes before it a complementizer C, with respect to which the verb is subcategorized. This construction (i.e. C+Sentence) is somewhat comparable to adverbial clauses, which are of the form: Conjunction+Sentence. For example the deep structure of *he started singing* might be represented as follows:

(8)



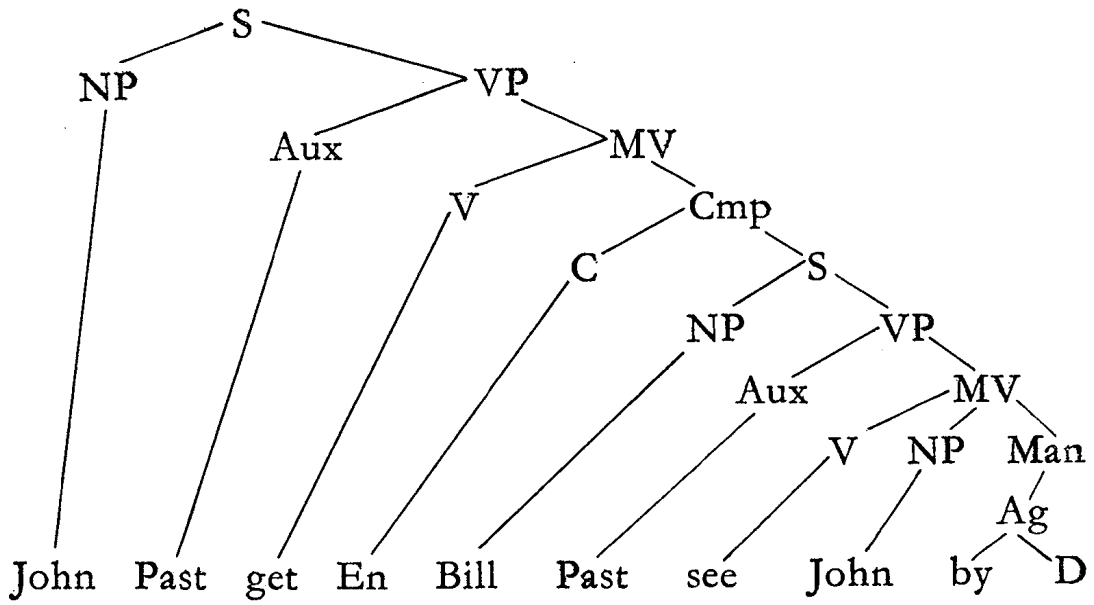
Suppose we set up a transformation (T_1) that derives: *he Past start Ing sing* from this deep structure. It will consist of 1) substitution of the complementizer *Ing* for the Aux of the embedded sentence, and 2) deletion of the subject of the embedded sentence, subject to recoverability condition (i.e. just in case it is identical with the subject of the matrix sentence). In the same manner the deep structure representation of *I saw John leave* will be:

(9)



Here the transformation required (T_2) would consist of 1) substitution of C ($=\phi$) for the Aux of the embedded sentence, and 2) deletion of the subject of the embedded sentence, just in case it is identical with the object of the matrix sentence. These V(NP) C#S# structures suggest that get+En be treated in exactly the same way. Thus the underlying structure of *John got seen by Bill* will be:

(10)



The transformation (T_3) that derives *John Past get En see by Bill* from the above would consist of the following operations: 1) substitution of the subject of the embedded sentence for D, 2) substitution of C(=En) for the Aux of the embedded sentence, and 3) deletion of the object of the embedded sentence, just in case it is identical with the subject of the matrix sentence. It will be clear from the above that passives with get+En involve essentially the same process as other V+Cmp structures.

2.3. Here we might make one general observation on the notion of transformation. Although operations like T_1, T_2, T_3 above are usually conceived of as ' transformations,' it is clearly uneconomical to regard these as unanalyzable processes, since these putative ' transformations ' can easily be broken down into a few elementary operations (as shown above), each of which is independently motivated and has quite a general scope, in the sense that it enters into many other ' transformations ' (as usually conceived) in different combinations with other elementary operations. For instance, even such a seemingly unique operation as the substitution of the subject NP for D of the agentive phrase occurs independently in

nominals like *the polishing of the lenses by the worker* (see 4.2). Thus, wherever we can extract such cross-transformational elementary operations, it would be much simpler to reinterpret them as transformations (mapping rules) than to set up a far greater number of 'transformations' consisting of various combinations of these elementary operations (for instance, if there are three such elementary operations, seven different 'transformations' ($=_3C_3+_3C_2+_3C_1$) are theoretically possible).

2.4. Returning now to our main problem, we might assume that the correct analysis for get+En#S# is V+Cmp, as given in (10).[1] Our next question is whether be+En can be treated in the same manner as get+En (i.e. with *be* instead of *get* in the P-marker (10)). One might expect that these two formatives would be assigned the same status in the base, but it is obviously impossible to regard be+En#S# as an instance of V+C#S#, since *be* does not behave as a member of V in a number of well-known transformations. Hence if *be* were assigned to V, we would have to specify, in each of these transformations, that V is not *be*. On the other hand, if get+En and be+En are regarded as special passive formatives as in (7) 3, there is no way to assign *get* to V. Hence *get* will have to be specially listed as V in just those transformations referred to above. Thus we are led to separate be+En and get+En, and revise (7) 3 slightly, replacing Pass by be+C and

[1] There is one possible objection to regarding get+En#S# as V+Cmp. If this interpretation is correct, *get* will freely take manner, locative, and time adverbials of its own. Actually, however, these adverbials, if present, seem to be invariably interpreted as internal to S, rather than as modifying *get*. In the case of an unmistakable V+Cmp structure, a contrast like the following is possible:

he started [he cried bitterly]$_S$ (→ he started crying bitterly) vs. he started [he cried]$_S$ an hour ago (→ he started crying an hour ago).

On the other hand, it is not the case even with such a V+Cmp structure that locative and time adverbials can be freely chosen both in the matrix and in the embedded sentences (e.g. *he started [he cried there for a long time]$_S$ in the room an hour ago). This question will have to remain open until the status of adverbials in general is made clearer.

relegating *get* to V status, as indicated above. It should be noted however, that though be+En#S# and get+En#S# are assigned to slightly different structures, the essential similarity between them is fully brought forth by 1) the similarity in their deep structure representations, and 2) the uniform manner of derivation, i.e. by the fact that passives with be+En and get+En involve exactly the same set of operations (transformations), as will be shown in 4.

3. Before proceeding to show the derivation of passive sentences, we will briefly discuss a construction closely related to, but different from, the genuine passive construction. Consider sentences like the following:

(11) i) His bills are paid.
ii) His bills are paid regularly every month.
iii) His bills are paid, so he owes nothing now.
iv) The door was shut
v) The door was shut by John
vi) The door was shut at six, but I don't know when it was shut.
vii) The garden was covered with leaves.

The systematic ambiguity of sentences like i), iv), vii) is well-known, and has been discussed by Jespersen, Curme, and many others. From our point of view, the ambiguity of these sentences requires that two different deep structures be postulated for each. Usually all these forms are lumped together as ' passives ' in traditional grammars, and classified according to meaning into, e.g. ' statal passives ' and ' kinetic passives '. However only the ' kinetic ' or ' action ' variety constitutes the genuine passive construction we have been discussing. The ' statal passives ' are quite different in their internal representations from the true passives, and are actually not passives at all. Here we tentatively assume that they are a variety of be+Pred construction. Thus i) would be represented as:

(12) the door Past be En $[\text{shut}]_{S}$ (Passive)
(13) the door Past be $[\text{En shut}]_{\text{Pred}}$ (Statal ' passive ')

On the other hand there is a similarity between these two constructions, in that the Object-Verb relation holds between the subject and the verb of the statal construction, just as in the true passive construction. Thus there are no statal passives like **the door was wept* or **he was resembled.* Hence this relationship must somehow be represented in the structure underlying statal passives. Taking account of these structural features, we might posit the following deep structure for the statal variety of *the door was shut at six:*

(14) the door Past be # Unspecified-Subject Past have En shut the door by D # at six

(Here the embedded sentence is dominated by Pred, that is, we assume one of the expansions of Pred is #S#.) In order to derive the surface structure from this, we must apply three transformations (in the sense of 2.3), two of which are general and one specific to this construction. The two general ones are 1) deletion of the object of the embedded sentence, subject to recoverability condition, and 2) substitution of the subject of the embedded sentence for D. The latter operation yields by+Unspecified-Subject, which will be deleted obligatorily by a later transformation. The restriction of the embedded subject to an unspecified NP is motivated by the fact that there seem to be no unmistakable instances of statal passives which co-occur with the agentive phrase. The remaining transformation specific to the statal construction is simply deletion of Tns+have of the embedded sentence, where Tns must be identical with that of the matrix sentence. The perfect formative is introduced in (14) in order to account for the characteristic meaning and to assign the category Pred to *En shut.* There seem to be further grammatical-semantic restrictions on the kind of verbs that can appear in this construction, but the above account should be enough to distinguish between the true passive and the pseudopassive statal constructions.

4.1. We may now consider a fragment of the base with the categorial component (15) and the lexicon (16):

(15) 1. S→NP+VP

2. $VP \rightarrow Aux + MV$
3. $MV \rightarrow \left\{\begin{matrix} be + C\#S\# \\ MV_1\ (Loc)\ (Time) \end{matrix}\right\}$
4. $MV_1 \rightarrow \left\{\begin{matrix} be + Pred \\ V(Prt)\ (NP)\ (Cmp)\ (Man) \end{matrix}\right\}$
5. $Cmp \rightarrow \left\{\begin{matrix} C\#S\# \\ (PrepPhr)\ (PrepPhr) \end{matrix}\right\}$
6. $Man \rightarrow (Manner)\ (Ag)$
7. $Ag \rightarrow \left\{\begin{matrix} of \\ by \end{matrix}\right\} D$

(16) get, be $[+\_\_En\#S\#, \ldots]$[1]
begin, start $[+\_\_[\alpha C_1]\#S\#, \ldots]$ $(\alpha = +\text{or} -)$
tend, try $[+\_\_to\#S\#, \ldots]$[2]
quit, stop ('cease') $[+\_\_Ing\#S\#, \ldots]$
see, hear, feel $[+\_\_NP\phi\#S\#, -C_3, +C_5, \ldots]$
make $[+\_\_\phi\#S\#, -C_2, \alpha C_4, \ldots]$
let $[+\_\_\phi\#S\#, \ldots]$
catch $[+\_\_NP\phi\#S\#, +C_3, +C_5, \ldots]$
cause $[+\_\_to\#S\#, -T_{erase}, \ldots]$
call, elect $[+\_\_NP\phi\#S\#, +C_3, -C_4, \ldots]$
keep $[+\_\_NP\phi\#S\#, +C_3, +C_4, \alpha C_5, \ldots]$
En, ϕ $[+C, \ldots]$
to $[+C_1, \ldots]$
Ing $[-C_1, \ldots]$

Associated with this lexicon are the following (syntactic) redundancy rules:

(17) 1. $[\alpha C_1] \rightarrow [+C]$
2. $[\alpha C_3] \rightarrow [+C_2]$
3. $[+\_\_\phi\#S\#] \rightarrow [-T_{erase}]$

The transformational component will contain the following ordered rules:

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[1] Entries that are specified in the same manner for the features that bear on V + Cmp structure have been put together for ease of reference.

[2] *Try* Ving is analyzed as V+NP (just as *avoid* Ving). Cf. the contrast in *he tried to play the piano* vs. *he tried playing the piano.*

(18) 1. $T_{Agentive}$:

SI: 1) #, NP, Aux, V, (Prt), NP′, X, by, D, Z, #

2) #, NP, Aux, V, (Prt), of, D, Z, #

SC: Substitute NP for D

2. $T_{Verbal\ Complement}$:

SI: $\begin{Bmatrix} V \\ be \end{Bmatrix}$, (NP), C, #, X, Aux, Y, #

where: $Y = be + Z$ if $V = [+C_3]$

SC: 1) Substitute C for Aux

where: $X = null$ if $C = En$

$X = NP$ if otherwise

2) Delete *be* if $Y = be + Z$ and

a) $V = [+C_2]$ (Obligatory)

b) $V = [-C_2]$ (Optional)

where: $Z = \begin{Bmatrix} AP+W & \text{if } V=[+C_4] \\ NP+W & \text{if } V=[-C_4] \\ Ing+W & \text{if } V=[+C_5] \\ Loc+W & \text{if } V=[-C_5] \end{Bmatrix}$

3) Delete # if $V = [-T_{erase}]$

3. T_{erase}:

SI: NP, X, #, $\begin{Bmatrix} NP, C \\ C, V, \begin{Bmatrix} (Prt)\ (P) \\ (NP') \end{Bmatrix}, NP \end{Bmatrix}$, Y, #

where: X does not contain an NP

Sc: Delete the embedded NP and #

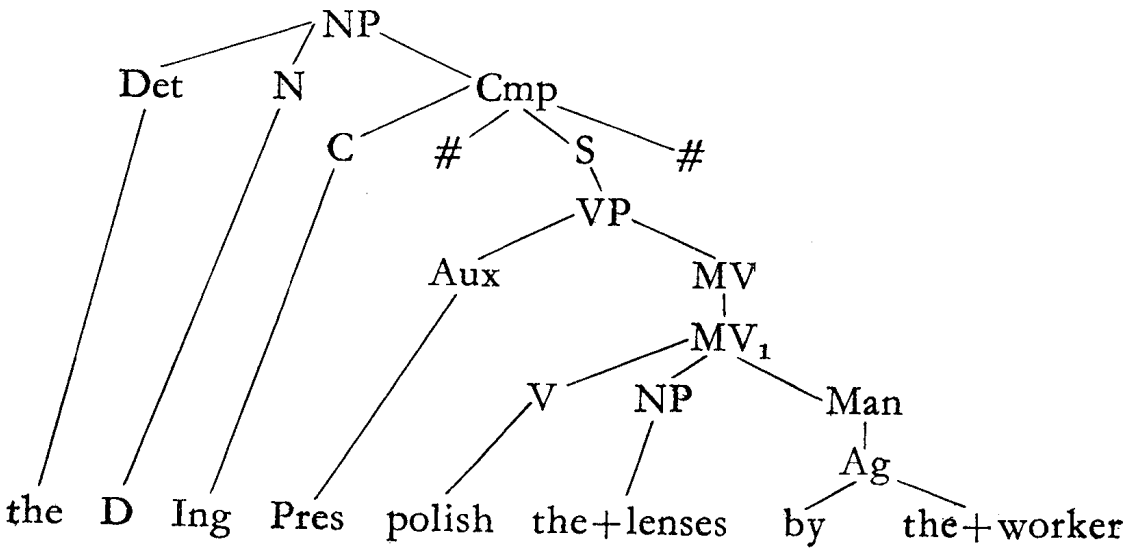
4.2. We will now show how these rules operate to derive verb complement structures (including passives) from the base structures generated by (15), (16), and (17), making additional comments on each of the transformational rules given in (18).

T_{Ag} simply replaces the agentive dummy by the subject NP. E.g.:

(19) # the worker Pres polish the lenses by D #→

Pres polish the lenses by the worker

(20) # birds Pres sing of D #→# Pres sing of birds #
The resultant transform represents only an intermediate stage in derivation that must be adjusted by further transformations, just as 'systematic phonemic' representations of lexical items must go through many intermediate stages in order to reach the final correct phonetic representations. It will be seen that this transformation is internal to S and leaves # intact. Hence it is available for further filtering. The resultant structure is utilized not only in passives, but also in noun complement structure. As pointed out by Lees[1] only those transtitive verbs that can undergo passivization and take manner adverbials can undergo so-called action nominalization. E.g.: the painting of a picture by the artist—a picture was painted by the artist vs. *the costing of ten dollars by the book—*ten dollars were cost by the book. Thus pseudo-transitives like *marry*, *weigh*, *resemble*, *cost* share the property that they do not allow the inverted subject in *by*-phrase. This restriction can easily be stated if action nominals are derived from structures that have undergone T_{Ag}. For instance, if (19) is embedded as a noun complement, as in
(21)



we will get: the Ing polish of the lenses by the worker. This

[1] Lees, *op. cit.*, p. 8.

transformation would consist of 1) substitution of Cmp for D, 2) substitution of C for Aux, and 3) addition of *of* to the object NP.[1] Similarly it is possible that the statal variety of 'passives' also involves T_{Ag}, in the manner briefly described in 3 above.

4.3. T_{VC} is essentially a substitution of C for Aux of the embedded sentence.[2] As specified in the formulation, $[+C_2]$ defines those verbs that must delete *be* if the Main Verb of the embedded sentence begins with it, and $[-C_2]$ those that delete *be* optionally (i.e. make him be a scholar (*or* happy)/make him a scholar (*or* happy)). Of the verbs that have the feature $[+C_2]$, $[+C_3]$ defines those that take only those embedded sentences whose MV is of the form: be+X, whereas $[-C_3]$ defines those that are not restricted in this way. Thus *catch* in *catch John stealing* (←catch John [John is stealing]) is a $[+C_3]$ and *see* in *see John running* (←see John [John is running]) is a $[-C_3]$, since *see John run* is alsopossible. The remaining features ($\pm C_4$, $\pm C_5$) determine what elements can follow *be*, as defined in T_{VC}. In order to show various effects of T_{VC}, some examples are given below.

(22) the door Past get (*or* be) En # Past shut the door by John #→the door Past get (*or* be) # En shut the door by John # (The embedded string is obtained from: # John Past shut the door by D # by applying T_{Ag} to it).

(23) he Past start Ing (*or* to) # he Past sing #→he Past start # he Ing (*or* to) sing # (*start* can take both $[+C_1]$ and $[-C_1]$).

(24) he Past let ϕ # Bill Past go (*or* be angry *or* be a scholar) #→ he Past let Bill ϕ go (*or* be angry *or* be a scholar) (Note that *let* is a $[-T_{erase}]$ by the redundancy rule (17) 3. Hence # is deleted by (18) 2, 3), since no further filtering is necessary. *Be* is not deleted since *let* is neither $[+C_2]$ or $[-C_2]$).

(25) he Past make ϕ # Mary Past be happy (*or* a scholar) #→he

[1] Needless to say, the deep structure (21) and the suggested transformation are extremely tentative.

[2] This transformation could obviously be generalized when Adjective Complement and Noun Complement structures are taken into account.

Past make Mary ϕ (be) happy (*or* a scholar) (Deletion of *be* is optional since *make* is a $[-C_2]$. *Be* can be followed by NP or AP, but not by Ing or Loc, since it is $[\alpha C_4]$ but not $[\alpha C_5]$. Finally the MV of the embedded string may be *go* instead of *be happy* since it is not a $[+C_3]$).

(26) I Past catch John ϕ # John Past be Ing steal the book #→I Past catch John # John ϕ Ing steal the book # (*catch* is specified as $[+C_3]$, $[+C_5]$ in the lexicon, but the feature $[+C_2]$ is added to it by (17)2).

(27) I Past see John ϕ # John Past run (*or* be Ing run) #→I Past see John # John ϕ run (*or* Ing run) #[1] (*see* is a $[-C_3]$, a $[+C_5]$, and also a $[+C_2]$ by (17)2).

(28) I Past call John ϕ # John Past be a doctor #→I Past call John # John ϕ a doctor # (The feature specification for *call* permits only be+NP as MV of the embedded sentence).

(29) I Past keep the car ϕ # the car Past be in the garage #→I Past keep the car # the car ϕ in the garage #

(30) I Past ask John to # John Past come #→I Past ask John # John to come #

4.4. Finally T_{erase} carries out necessary deletion and filtering[2]. It is clear that the deleted NP must be identical with the NP in the matrix sentence if the general recoverability condition on deletion is to be satisfied. Thus, by this transformation, the subject NP's of the embedded sentences in (23), (26)—(30) are deleted and these sentences are marked as well-formed. However if (23) had been,

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[1] The different analyses in $[\text{see}]_V[\text{John}]_{NP}[\text{running}]_S$ vs. $[\text{make}]_V[\text{John run}]_S$ are motivated by the fact that while *John* is in the object range of *see*, it is not necessarily in that of *make*. Harris (' Co-occurrence and Transformation in Linguistic Structure,' *Lg*, 33. 3) is right in distinguishing these two types, but wrong in regarding *John run* as object NP of *make*. He resorted to this analysis probably because the structure V+S was not available to him.

[2] When this transformation is sufficiently generalized in such a way as to take care of other complement structures as well, the condition that the NP to be deleted should be matched with the nearest NP in the matrix sentence would prove insufficient. Cf. Rosenbaum, *A Grammar of English Predicate Complement Constructions.*

e.g. he Past start # she Ing sing #, it would be filtered out since T_{erase} could not apply. The passive construction must also undergo T_{erase}:

(31) the door Past get (*or* be) # En shut the door by John #→ the door Past get (*or* be) En shut by John.

The structure index of T_{erase} permits deletion of NP in the environment:

$$\#, C, V\begin{Bmatrix}(Prt)\ (P)\\ (NP)\end{Bmatrix}\_\_\_Y, \#$$

Examples involving Prt and P are familiar, e.g.:

(32) the book was (*or* got) thrown away (V+Prt)

(33) John Past be (*or* get) # En *look up to* John by the boys #→
V Prt P
John Past be (*or* get) En look up to by the boys.

The structure V+NP+NP, which is the so-called indirect-direct object construction, is derived only through a transformation. Suppose that *give*, for instance, has the features: [+___NPtoNP, $+T_{P-del}$, . . .] as against e.g. *communicate:* [+___NPtoNP, . . .], which does not have [$+T_{P-del}$]. Now T_{P-del} is roughly of the form:

$$NP, to, NP' \rightarrow NP', NP \quad /[+T_{P-del}]\_\_\_$$

Thus we get *Bill Past give John a book* from the underlying structure: *Bill Past give a book to John*, whereas in the case of *communicate* we have only the base structure *communicate the news to John.* The two variant structures for verbs with [$+T_{P-del}$] are analyzable, with respect to the structure index of T_{erase}, in the following three ways (the NP's to be deleted are italicized):

(34) 1. $\underline{\underline{give}}_{V}\ \underline{\underline{a\ book}}_{\mathit{NP}}\ \underline{\underline{to\ John}}_{Y}$

2. $\underline{\underline{give}}_{V}\ \underline{\underline{John}}_{\mathit{NP}}\ \underline{\underline{a\ book}}_{Y}$

3. $\underline{\underline{give}}_{V}\ \underline{\underline{John}}_{NP'}\ \underline{\underline{a\ book}}_{\mathit{NP}}$

Hence verbs with the feature [$+T_{P-del}$] permit three passive forms

and all of them can be derived by T_{erase} (in conjunction with T_{Ag} and T_{VC}) as desired.[1]

It will be seen from the above account that passive constructions do not involve a unique process of inverting the subject NP and the object NP. Of the two passive constructions, the one with *get* is only a special case of the general verb complement construction. The passive construction with *be* is also closely similar to it as is seen from its underlying representation: be+C#S#. Moreover the verb complement construction and both of the passive constructions are derived through application of T_{VC} and T_{erase}. They differ only in that the latter involve T_{Ag} as well. Thus, given appropriate formulation of these three transformations, it becomes possible to dispense with the special 'passive' transformation.

5. Finally we will consider one theoretical implication of the foregoing analysis on the notion of transformation. As it stands, the notion of transformation is still too powerful in that it allows mechanism that is not actually utilized by natural languages. The so-called Boolean conditions on analyzability might be adequate for the proper specification of the structure index of a transformation. However, no such constraints are imposed on the structural change a transformation may perform. Thus the present definition of transformation permits e.g. three deletions, two adjunctions, and two substitutions within a single transformation. But, obviously, there is no need for such a transformation, and one might wish to exclude such excessive operations on some principled basis. In the light of the foregoing discussion, it seems to me possible to impose two tentative conditions on the kind of operation a transformation may perform:

1) adjunction of a new formative (to some term of the structure

[1] Verbs with the features: [+__NP for NP, $+T_{P-del}$,..] might be treated in the same manner, for those speakers who allow *the book was bought me ten years ago by my father*, *I was bought a book*, etc. For those who do not, a more complex ordering is necessary. Cf. Fillmore, *Indirect Object Constructions in English and the Ordering of Transformations*.

index) should be avoided, unless it is a completely automatic increment that does not have morphemic status (e.g. *do*, which is introduced as the ' bearer ' of an unaffixed tense morpheme)[1]

2) an optimal transformation consists of one elementary operation (namely, a substitution of one term of the structure index for another or a deletion of one term of the structure index, subject to recoverability condition), sometimes accompanied with deletion of # for the purpose of filtering.

Perhaps these should be regarded as practical working principles rather than as definitive constraints to be incorporated into the general theory, it seems clear that such a transformation as (2), which involves 1) addition of be+En, 2) substitution of the subject NP for *Passive*, and 3) shift of the object NP to the subject position, is highly dubious in the light of the above requirements which optimal transformations are expected to meet. In particular, introduction of be+En by transformation does not seem plausible since it is not completely automatic, in the sense that the presence of the agentive by+D does not always require the introduction of be+En, whereas, e.g. the presence of an unaffixed tense morpheme always requires the introduction of *do*.

[1] This condition seems reasonable since it is precisely when adjunction is involved that the automatic construction of the derived phrase structure becomes difficult (see 1 above). Chomsky suggested a stronger version of this condition (namely, that a phonetic matrix should not be introduced transformationally) as a possible condition on transformation (in a lecture at the Seminar referred to in footnote 1, p. 89).