5.1.8 Since Frei sees this diversity as resulting from the attempt to 'condense' two judgments into one sentence—the two judgments that *P has B* and that *B is A* (in our terms)—he relates the constructions in question to the much discussed 'double subject' constructions of Japanese. In one type of this latter construction, two nouns appear before a verb or adjective, the first followed by the particle *wa* (indicating what I have called 'secondary topicalization'), the second by the particle *ga* (the particle of 'primary topicalization'). (Variations in the order and in the choice of particles do not change the status of the construction; the form described is the one most stylistically neutral.) The second of these nouns is of the inalienable type; the first identifies the object with respect to which the object identified by the second noun is 'inalienable'. The hackneyed example of the double subject construction is 142, a sentence which has 143 as a sort of forced paraphrase. In 143, the particle *no* is the particle whose functions are closest to those we would be inclined to label 'genitive'.

142. *Zoo wa hana ga nagai.* 'Elephant *wa* nose *ga* long.'
143. *Zoo no hana ga nagai.*

5.1.9 That expressions involving entities viewed as being closely associated with an 'interested person' have unique grammatical properties has also been observed in certain semantically unmotivated uses of 'reflexive pronouns' and the parallels one finds between these and various uses of the 'middle voice'. The connection with dative forms is seen in the fact that in some languages a kind of 'dative reflexive' is used in these special situations. Note 144 and 145.

144. *Se laver les mains.*
145. *Ich wasche mir die Hände.*

The connection between this use of the 'reflexive' and the category of inalienable possession is indicated by Bally, who points out that in item 146, *jambe* is the inalienable entity, while in 147 the word *jambe* can only (or, depending on my informants, can also) be understood as some independently possessed object, such as the leg of a table.

146. *Je me suis cassé la jambe.*
147. *J'ai cassé ma jambe.*

Notice that the *jambe* which does *not* have the possessive adjective is the one which is grammatically characterized as 'obligatorily possessed' (Bally, 1936, p. 68)!

5.2 Adnominal Datives

One way of introducing a possessive modifier of a noun has already been suggested: a sentence which could on its own assume the form *'X has Y'* is embedded to NP. Since it is desirable for an embedded sentence to have a semantic interpretation that contributes to the meaning of the whole sentence, the sentence-embedding source of possessives is needed as an explanation for alienable possession. In other words, one is satisfied to have the meaning of 148 represented as a part of the meaning of 149, though we may reject such a relationship between 150 and 151.

148. I have a dog.
149. my dog'
150. I have a head.
151. my head

A distinct method is required for introducing the possessive element in the case of inalienable possession, a method which reflects the fact that the relationship between the two nouns in 'inalienable possession' is not (*pace* Frei) a sentential relationship.

For the types of inalienable possession that we have considered so far—in which the relationship has always been to an animate or 'personal' entity—the solution is to say that some nouns obligatorily take D complements. This can be managed by adding to the grammar another way of writing NP, namely the rule in 152.

152. NP → N (D)

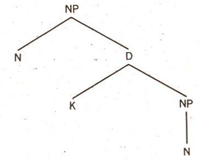
In the way that frame features for V's relate to environments of V's provided by the constituent P, frame features for N's relate to environments provided by the constituent NP. It was suggested above that N's which obligatorily take S complements are assigned the feature +[____ S]. We may now add that N's which obligatorily take D complements are characterized as having the feature +[____ D]; and these are the inalienably possessed nouns. The notation imposes a subclassification of nouns into those which require adnominal D (such as *son, child* in the meaning 'offspring', German *Mann* in the meaning 'husband') and those which reject adnominal D (such as *person, child* in the meaning 'very young person', *Mann* in the meaning 'man').

The two sources of possessive modifiers which the grammar now makes possible (adnominal D and adnominal S of a certain type) provide the deep-structure differences needed for determining the difference in the form of the possessive modifiers in those languages which make the

distinction overt in that way. Where further distinctions are made (as between body parts and kinship terms), the information on which such distinctions need to be based may be included as lexical features of the N's themselves.

The general configuration of NP's containing D's, then, is that shown in 153.

153



In some cases the adnominal D remains in the NP and in fact retains the surface features associated with D, as in 154; typically, however, a D inside an NP is changed to a genitive form, as in 155.

154. secretary to the president
155. the president's secretary

If determiners are universal,[62] then the expansion of NP must make provisions for them; but if they are not, then languages which have them will need 'segmentalization' rules of the type described by Postal (1966). At any rate, the determiners (which I represent as 'd') will figure in the various things that can happen to adnominal D. Sometimes, for example, when a D remains in the NP without undergoing genitive modification, certain of its features are copied onto the determiner so that the determiner may eventually assume the form of the appropriate 'possessive adjective'. This seems to account for such expressions as the possessive dative with kinship terms seen in some German dialects (recall 120) in Ossetic (see Abaev, 1964, p. 18).

5.3 Some Illustrations

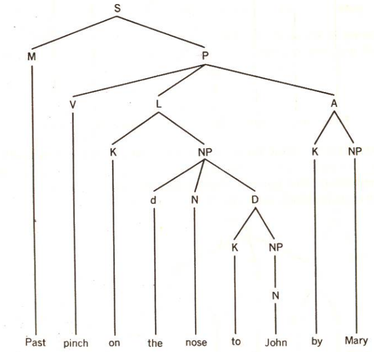
The D constituent often need not remain in the NP: under some conditions it may be 'promoted', so to speak, from the status of a modifier of an N (which it is in the deep structure) to the status of a major

[62] I am inclined to think that they are. See Fillmore (1967).

constituent on the next higher level of the syntactic structure. This can be seen in sentences having the base configuration [V + L + A]: just in case the N under L is a body part, the D which in the deep structure is subjoined to L is 'promoted' to become a constituent of P, yielding a sentence superficially of the type [V + D + L + A].

The verb *pinch* is accepted into the case frame [____ L + A], and except when it has taken on the feature [+passive], it is a verb which deletes the preposition of the following constituent. Let us consider sentences derivable from the deep structure seen in 156.

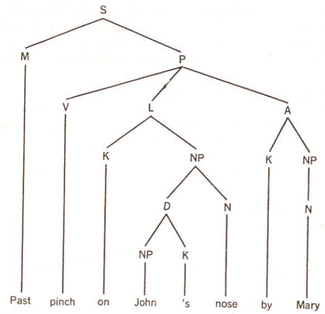
156



We shall see what happens to the sentence under four conditions: when the D remains inside L and A becomes the subject; when the D remains inside L and L becomes the subject; when the D is promoted and A becomes the subject; and when the D is promoted and D becomes the subject.

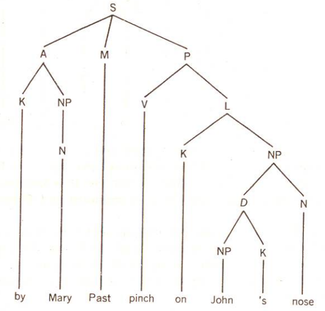
Whenever D remains inside NP (in this sentence), it is preposed to the N and converted to its genitive form, displacing the original determiner. Since it is a personal noun, the K element assumes the form of a genitive suffix. With nonpromoted D, in other words, 156 eventually becomes 157.

157

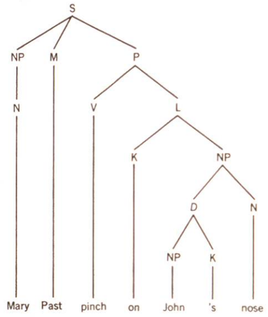


Diagrams 158–161 show the development from 157 when A is made the subject: the subject preposition is deleted and its case category is erased; the preposition after *pinch* is deleted and the case category L is erased; and the tense is absorbed into the V.

158



159



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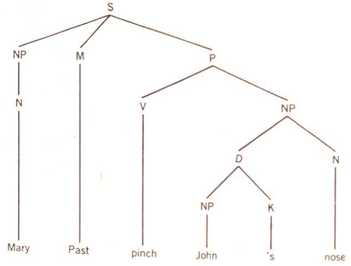
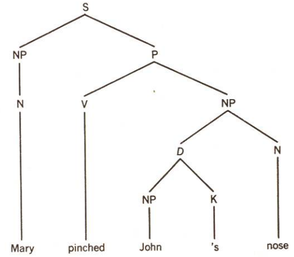
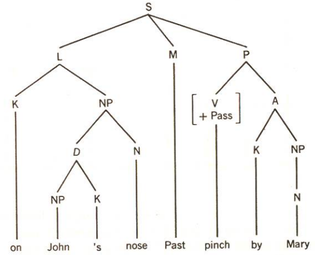


161

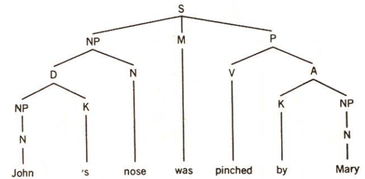


If the L of 157 is chosen as subject instead of the A, the result is 162. This choice of subject requires the V to assume the feature [+passive], which causes it to lose its ability to delete following prepositions and its ability to take tense affixes. The surface structure eventually resulting from 162 is 163.

162

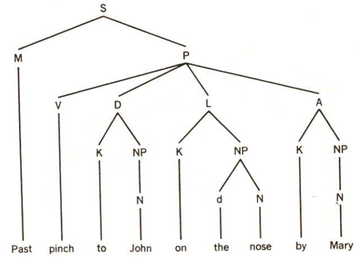


163



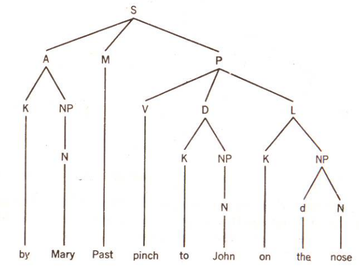
Backing up to 156, we may now see the consequences of 'promoting' adnominal D. When the D is removed from L and becomes the left-most case constituent in P, the resulting structure is 164.

164

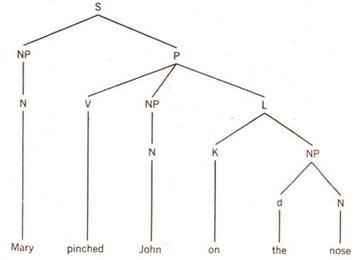


The possible subjects for 164 are the A or the newly promoted D. When the subject is A, we get 165, a structure which, on application of the rules we have learned, eventually becomes 166.

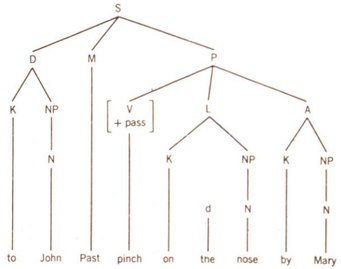
165



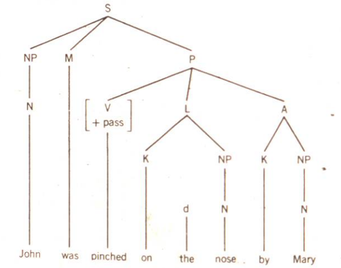
166



When D is made subject, on the other hand, we get 167; on applying the rules appropriate to a V with the feature [+passive], we eventually get 168.

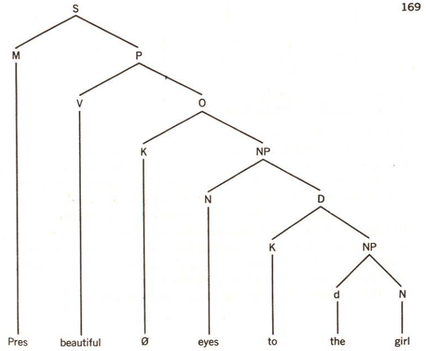


168



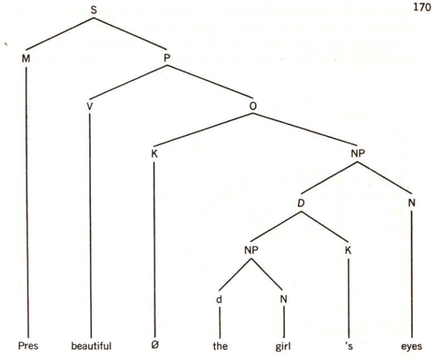
We may turn to the problem which interested Bally and Frei and examine the role of adnominal D in sentences which assign attributes to obligatorily possessed elements. The basic structure of such sentences can be illustrated by 169.

169

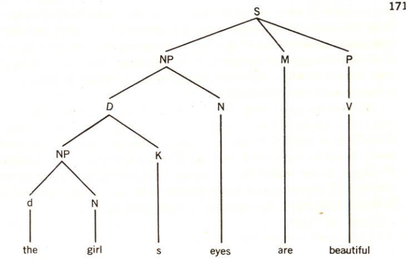


In languages which allow the D to remain in the NP, the D element is converted to its genitive form. In English this results in 170. Since 170 has only the form [V + O], the O is necessarily chosen as subject, and the result for English is 171.

170



171



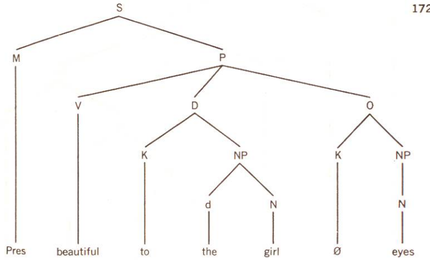
Notice that since the V is an adjective, it is incapable of 'absorbing' the tense,[63] so that it requires the provision of *be* within the M constituent.

[63] Stated more accurately, V's which are adjectives, passives, or progressives are incapable of absorbing the right-most affix in M.

Example 171 is a rendering of 170 in which the V is predicated on the O and the D is subjoined to the O. Thus it is analogous to our earlier Sentences 127 and 134 and is of the type indicated in 131.

Suppose next that the D of 170 does get 'promoted'. The result of introducing the D in this way as an immediate constituent of the P is 172.

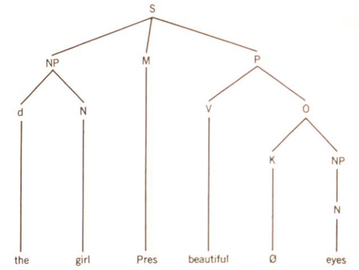
172



Some languages allow the O of Configuration 172 to become the subject and the D element to remain in the expected surface form for D, as in Sentence 132. Others allow the D element to undergo secondary topicalization when the O is subject, resulting, for example, in one case of the 'double subject' construction in Japanese (recall 142). The general expression type for sentences resulting from 172 when O becomes subject is suggested by the formula in 135 above.

Many languages allow the D to become subject. When this happens and there are no other changes, the O appears in some oblique case form. This is so because, since *beautiful* is not a true verb, the body-part word cannot be converted into an 'object'. The initial structure is seen in 173; it is one which is not typical of English, though it is perhaps seen in such expressions as those given in 174 and it may represent a stage in the derivation of a phrase of the type given in 175.

173



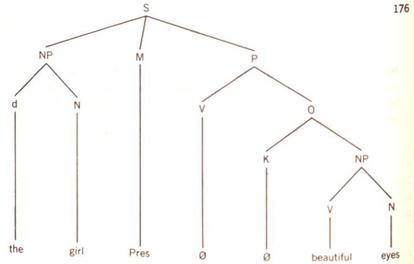
174. tall of stature, blue in the face
175. broad-chested, fat-legged

It appears to be the structural form underlying 136, whose expression type is given in 137. The construction is apparently quite rare in French; Frei speaks of it as a 'short-circuited' version of the sentences with *have*.

Another possibility, when D is subject, is to attach the adjective to the NP indicating the body part. I propose, in an unhappily quite ad hoc fashion, that this be done without removing the constituent label V. I believe there are some arguments for retaining at least an abstract V under P at all times. This constraint may turn out to be better motivated than it seems, for this structure appears to reflect what was needed in those languages which adopted a verb like *have*.

The structure I have in mind is that shown in 176.

176



With the V under P vacant, a *be* must be added to the M in languages which allow structures of this type to become sentences directly. Notice that in this construction the modified body-part NP as a whole is 'in' some case form. The formula for this expression type has not yet been given; it would be something like 177.

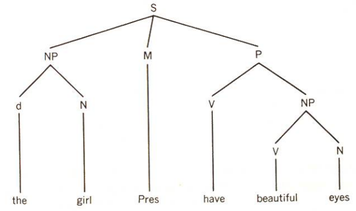
177. P *be* $[A \rightarrow B]^{\text{oblique}}$

Conceivably this is the structure underlying such predicates as those shown in 178; the difference between predicates of the type in 137 and those of the type in 177 is seen in the Latin paraphrases of 179 and 180 respectively.

178. of tall stature; *di bello aspetto*
179. *aequus animo*
180. *aequo animo*

The last possibility, then, is to insert into the vacated V position the function word *have*, a verb which takes the modified body-part noun as its 'object'. In English, we have seen, this involves deleting the preposition. The result of modifying 176 in this way is 181.

181



In short, it appears that the considerable surface variety found in sentences involving attribution of some property to an inalienable noun is to be accounted for by positing for universal grammar, in the spirit of Bach (1965), a set of recurrent transformations which each language uses somewhat in its own way. For sentences of the general structural type 182

182. $^{P}[V^{O}[D + N]]$

where V is an adjective and N is a body-part noun, the options are *a* to *d* below:

(*a*) promote D
(*b*) choose D as subject
(*c*) copy adjective into body-part NP
(*d*) insert *have* into the vacated V

When *a* is not applied, the D becomes a genitive modifier of the body-part N and the whole O becomes the subject. When *b* is not applied, the O becomes the subject. When *c* is not applied, the 'short-circuited' sentences of Frei are the result. Rule *d* is available only to languages which have 'invented' *have*.

5.4 Further Remarks on Inalienable Possession

If the feature of inalienable possession is to be treated as a universal property of language, then either vocabulary items which are translations of each other will be categorized alike with respect to alienability, or the ways in which languages separately classify the 'same' things may possibly reflect differences in the psychic make-up of the speakers of different languages. Many scholars have seen in the data on inalienabilia an opportunity for the science of language to shed light on primitive mentality and on the possible range of man's concept of 'self'. Since the differences appear more and more to be differences on the level of surface structure, it may be advisable to wait some time before reaching any conclusions on these matters.[64]

Adnominal D will certainly be needed for more than body-part nouns and names of relatives. Directional indicators like *right* and *left* are probably nouns of this type too. The reason that these words appear typically without any personal reference in English and many other languages is that they frequently refer to position or direction with respect to the speaker or addressee of the utterance, and there are simply many situations in which an adnominal D does not need to be expressed if it identifies speaker or hearer.

There are, too, many relational nouns which do not have a spe-

[64] For representative statements on the sociological relevance of the study of inalienable possession, see Lévy-Bruhl (1916, p. 103), Bally (1926, p. 68 *et passim*), Frei (1939, p. 192), and van Ginneken (1939, p. 90). For a catalogue of noun classifications based on grammatical differences associated with inalienable possession, see Rosén (1959, p. 268 f.).

cifically personal reference. We might wish to say that certain 'locational' nouns take an adnominal L. These nouns sometimes name parts of the associated objects, as in 183, and they sometimes identify a location or direction stated with reference to the associated object but not considered as a part of it, as seen in 184. 'Nouns' of the second type appear superficially as prepositions in English.

183. corner of the table, edge of the cliff, top of the box
184. behind the house, ahead of the car, next to the tower

6. Problems and Suggestions

There is a considerable residue of unsolved problems in the grammatical description of language phenomena, and it is disappointing though not surprising to realize how many of them remain unsolved under the formulation of grammar I have been suggesting. Those which come most quickly to mind are coordinate conjunction, nominal predicates, and 'cognate objects'.

6.1 Coordinate Conjunction

There may be a relationship between the ways in which languages deal with 'comitative' constructions and the phenomenon of coordinate conjunction of NP's. Put in case terms, there may be a relationship between conjunction of NP's and what one might wish to refer to as a comitative case. Jespersen noticed the parallels between *with* (a preposition which has a comitative function) and the conjunctor *and*, as in such pairs of sentences as 185 and 186 (1924, p. 90).

185. He and his wife are coming.
186. He is coming with his wife.

Japanese has separate devices for indicating sentence conjunction and NP conjunction, and the postposition used for NP conjunction is identical with the comitative postposition. In a conjunction of NP's, all but the last have the postposition *to*. The last one has the postposition appropriate for the case role of the whole NP. Compare 187 and 188.

187. *Tanaka-san to Hashimoto-san ga kimashita.*
'Mr. Tanaka and Mr. Hashimoto came.'
188. *Hashimoto-san ga Tanaka-san to hanashimashita.*
'Mr. Hashimoto spoke with Mr. Tanaka.'

Redden points out that in Walapai a sentence has only one noun in the 'nominative' case. Noun conjunctions are effected by having the 'ablative' suffix—the suffix with comitative function—on all but one of the nouns in a conjunction. Thus, in 189, /-č'/ is nominative, /-m/ ablative.

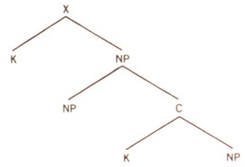
189. /hàtθâûač hmáɲm/
'the dog and the boy' (lit.' the dog with the boy')

It may be that the rule in 190 is needed as an expansion rule for NP.

190. NP → NP + C

Using *X* as a cover term for the various case categories, 190 will produce such structures as 191.

191

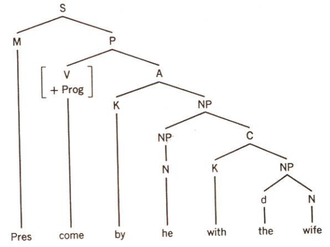


The case category C has a very special status, since the selectional constraints on nouns under C are those of the superordinate NP. What is needed, in other words, is a rule which imposes on any N under C the same redundant features that are associated with the dominating non-C case.

A subjoined C under some circumstances must remain in the large NP. In languages which lack a generalized conjunctor, the case marker is simply that appropriate to C (the postposition *to* in Japanese, the suffix *-m* in Walapai); in languages which have a generalized conjunctor, this word replaces the case marker, in the way that *and* replaces *with* under certain conditions.

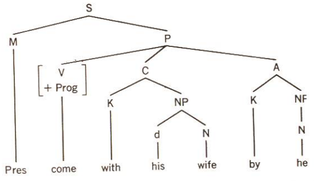
The structure underlying 185 and 186, then, might be something like 192; we ignore the source of *his*.

192



If the C remains inside the NP, the entire A becomes the subject, yielding Sentence 185; if the C is promoted, however, as in the structure shown in 193, it is left behind when the A becomes the subject, resulting in Sentence 186.

193



It is quite unlikely that the numerous problems associated with NP conjunction can be appreciably simplified through this approach, but that there is some connection between conjunction and comitative uses of NP's cannot be doubted. Lakoff and Peters (1966) have recently presented very persuasive arguments that the 'direction' of the relationship is the opposite of what I have suggested; that, in other words, comitative phrases are derived from NP conjunction rather than the other way around.

6.2 Nominal Predicates

Nothing that has been said so far suggests a way of providing for sentences of the *N be N* type. It is clear that they represent a distinct sentence type from those involving any of the case relations discussed above, though more than one case relationship may be involved in these sentences. (The terms *essive* and *translative* come to mind.)

Some nouns that appear in predicate position are restricted in their occurrence elsewhere. It might be possible to treat these nouns as, on one level, V's which are restricted to the form [—— A]. Examples are words like *idiot, bastard,* and *fool*. The environment contains A because the subject is always animate and because the constructions exhibit selectional and transformational properties associated with V's having A's in their environment. Notice 194 and 195.

194. Don't be a fool.
195. He's being a bastard again.

This interpretation appears to account for the fact that we have sentences like 196, but not—with *idiot* used in this same 'evaluative' sense—197.

196. John is an idiot.
197. An idiot hit the first homerun.

Further evidence that the word is properly treated as a V is found in the fact that these nouns may accept types of modification usually associated with adjectives, as in 198.

198. John is quite an idiot.

The serious problems are (*a*) with the use of words like *idiot, fool,* and so forth, in other contexts, as in 199, and (*b*) with the use of non-evaluative N's in predicate sentences, as in 200.

199. That rat swiped my lunch.
200. That boy is my nephew.

A new case category or two could be invented for the occasion, of course, but such matters as the requirement that subject and predicate NP's agree in number remain as serious as they ever were. Perhaps some solution is forthcoming along the lines of Bach's proposals elsewhere in this volume.

6.3 Cognate Objects

A difficulty of another sort is presented by the so-called 'cognate-object' constructions. These are constructions in which, at the very least, there is a high selectivity between a specific V and an 'object' N, and in which the V + N combination in one language might well be matched by a V alone in another.

Slightly modifying a recent analysis by Sandra Babcock (1966),[65] I would propose that there are contexts in which the case category F (factitive) may be left lexically empty, and that certain words classified as V's may be inserted specifically into frames containing dummy F's. These words may have associated with them special N representatives (for example, *bath*) and special pro-V's (for example, *take*). The rules that apply to dummy-F sentences are the following:

(*a*) Copy the N-representative of the V under the F.
(*b*) Replace the V by the designated pro-V.

The rules may have separate conditions of optionality for different V's. The cognate-object V *dream* may appear as a V in its own right, or it may appear in dummy-F sentences. As a cognate-object verb, it has *dream* as its N-representative and *have* as its pro-V; it is further specified as selecting either the preposition *about* or *of* for the O constituent and as not requiring Rule *b*.

When the N-representative associated with *dream* is copied into the F constituent, the result is Sentence 201; when the associated verb *have* replaces the V, the result is 202.

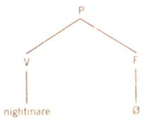
201. John dreamed a dream about Mary.
202. John had a dream about Mary.

With these devices, we may in fact consider extending the interpretation of cognate-object constructions in the following way. Some words may be treated as cognate-object V's even though the rule for replacing the pro-V is obligatory. The V *nightmare*, for example, might have *nightmare* listed as its N-representative and *have* as its pro-V. Thus, on applying Rule *a*, the structure in 203 becomes the intermediate structure in 204; on applying Rule *b*, 204 is converted to 205. Analogous uses of this device could possibly account for the connection between *suggest* and *make a suggestion*, *shove someone* and *give someone a shove*, and so

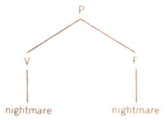
[65] Compare too the interpretation in terms of 'quasi transformations' found in Harris (1957, Section 30).

on, but many serious problems remain. In particular it is not obvious how sentences like 206 and 207 can be dealt with in accordance with these proposals.

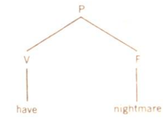
203



204



205



206. She made several ridiculous suggestions.
207. I had a terrible nightmare last night.

6.4 Other Problems

There are many issues for which I cannot even pretend to see solutions. The apparent connection between surface cases and 'partitive' functions; the restriction of 'definiteness' in some languages to NP's in particular surface-case relations (typically, the 'direct object'); the extreme variety of surface realizations of the same meaning (from the same deep structure?) that Jespersen illustrates in connection with what he calls 'rank shifting' (1924, p. 91), to name just a few.

The difficulties mentioned so far are empirical in nature, but many formal problems exist as well. One of these is whether the permitted arrays of cases under P need to be generated via phrase-structure rules, since one of the most important functions of the PS rules has been that

of defining grammatical relations—that is, that of defining phenomena which are here partly treated categorially rather than configurationally. Related to this problem are the apparent dependency relations that exist *among cases*. It appears, for example, that the occurrence of B (benefactive) phrases in a sentence has more to do with whether the sentence contains an A than with independent specific properties of V's. One is almost willing to allow these facts to be expressed by a generative process which chooses a verb, then the cases required by that verb, then the other cases that are compatible with the cases originally chosen. The issue is not whether the permitted sequences can or cannot be generated by PS rules—there is no doubt that they can—but whether the kinds of co-occurrence or dependency relationships that seem to obtain might not be more efficiently stated in some other way. (Modifications of transformational grammar of the type introduced in Chomsky (1965) made it no longer necessary to use PS rules for subclassification of lexical categories or for the choice of lexical items. If the provision of syntactic relations of certain kinds must also be handled by some device other than PS rules, there is a chance that rules of this type may be abandoned altogether.)

Whether the cases should be represented as categories dominating NP's or in some other way is an issue which seems to me to be fairly wide open. One advantage of the categorial treatment is that NP's made subject and object may be said to have lost their 'original' case relation to the sentence (by the rule which 'erases' the case category whenever the case marker K has been deleted—that is, a 'node-razing' rule) with the result that their form can only be determined by referring to their 'pure relational' status. Thus it would appear that the surface distinction between labeled and configurationally defined relations on NP's may correspond to the traditional distinction between the 'concrete' and the 'grammatical' cases. (How the genitive figures in this distinction is not clear under either interpretation.)

Several people have pointed out to me the apparent convertibility of underlying representations in case grammar into objects which resemble dependency diagrams and tagmemic formulas. If the K elements are interpreted as constituents of NP's, then the case categories *unarily* dominate NP's. This makes them equivalent to *labels on the branches that link P with the various NP's that are directly related to it*. If the only function of the P is to provide a constituent in terms of which the NP's can be related to the V, one may just as well represent these relationships more directly by replacing the node P by the V. The result is no longer a diagram of constituent structure, since lexical elements are inserted into 'dominating' nodes; but it may turn out to be just as possible to represent the needed constituent organization of sentences from a 'stemmatic' diagram of the type used by Tesnière or Hays, as from a phrase-structure tree diagram.

There is an easy conversion from underlying representations of case grammar to 'tagmemic' formulas, too, as long as the case categories *unarily* dominate NP's. Or, for that matter, a case-grammar diagram could simply be read off as a tagmemic formula, as long as certain symbols were designated as function indicators. One can as easily say 'NP filling an A slot' as anything else. The crucial difference between the modification of transformational grammar that I have been suggesting and the typical tagmemic study is in the insistence here on discovering the 'deepest' level of the 'deep structure'.

7. Closing Words

One criticism of case grammar that has been brought to my attention is that it is too strongly motivated by semantic considerations. Many of the analyses have (hopefully) the result that certain semantic distinctions and interlanguage commonalities are revealed in fairly direct ways in the deep structures of case grammar, but, it has been argued, syntactic analyses should be based on syntactic data alone and on one language at a time.

The question arises whether there is a 'level' of syntactic description that is discoverable one language at a time on the basis of purely syntactic criteria. If it is possible to discover a semantically justified universal syntactic theory along the lines I have been suggesting, if it is possible by rules (beginning, perhaps, with those which assign sequential order to the underlying order-free representations) to make these 'semantic deep structures' into the surface forms of sentences, then it is likely that the syntactic deep structure of the type that has been made familiar from the work of Chomsky and his students is going to go the way of the phoneme. It is an artificial intermediate level between the empirically discoverable 'semantic deep structure' and the observationally accessible surface structure, a level the properties of which have more to do with the methodological commitments of grammarians than with the nature of human languages.