1964

Review of Manfred Bierwisch, Grammatik des deutschen Verbs

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Bierwisch's monograph is the first extensive result of the transformational analysis of Modern German currently underway at the Berlin academy. At the same time it is one of the few book-length examples of a transformational grammar that have actually been published (aside from dissertations and the like) and is thus a welcome addition to the literature in this field. An idea of the scope of the study can be gained from these figures: not counting the lexicon there are 61 phrase structure rules outlining a plausible view of the basic syntax of German sentences; ignoring some smaller subdivisions, there are 62 syntactic classes of bases in the lexicon (of which 38 are verb classes, Bierwisch's special concern); 31 singulary transformations are discussed and eight generalized transformations (plus more or less informal suggestions for further rules and classes of various kinds). The subject of the study is wholly syntax. Bierwisch is well acquainted with the general literature on syntax (including some work that had not appeared at the time of writing—someone should make a study of the effect of ditto machines and similar devices on modern scholarship). He makes good use of work on German from other viewpoints (for example, Gunnar Bech's study of verbal constructions in the infinite forms). At a time when theories seem to come faster than attempts to test them, one is happy to see this sophisticated and excellent study, throwing much light on a language that has, strangely enough, scarcely been described from a modern point of view. At the same time—and this is a positive judgment—the monograph raises many questions about both the syntax of German and the theoretical framework used to describe it.

By and large, Bierwisch accepts the Chomskyan view of grammar, the Hallean view of phonology (only in footnotes), and the proposals of Katz and Fodor for a semantic theory (again without entering into a discussion of the semantics of German). A few questions and departures will be discussed below. The introduction (1–29) is devoted to an outline of the general approach. Following sections of the book are 'Konstituentenstruktur' (30–86), 'Einfache Transformationen' (87–120), 'Einbettungstransformationen' (121–48), and a final excursive chapter ‘Zur Grammatik von Tempus und Modus’ (149–64).

Mechanical application of the rules (plus necessary morphophonemic adjustments) produced the following sentence: (1) Lehm hat von Hans bei euch den Bräuten bestimmt gebracht sein dürfen. (Bierwisch does not take up the cooccurrences of major base classes, hence one could also derive another similar sentence with nouns interchanged.) I leave it to Germans to decide whether that is a grammatical sentence or not. No one who has tried to write a fully explicit grammar will be surprised at it (one minor quibble: bei euch is assigned by the rules an analysis as an adverbial of manner, which is clearly incorrect). We can also obtain the following sentence: (2) Hans hat das Benzin hinter die Maschine ge-
setzt. The phrase structure rules (with necessary obligatory transformations and morphophonemics) will yield, among others, the following variations:

(3) Hans hätte das Benzin hinter die Maschine gesetzt.
(4) Wird Hans das Benzin hinter die Maschine setzen?
(5) Das Benzin ist (von Hans) hinter die Maschine gesetzt worden.
(6) Hans muß das Benzin hinter die Maschine haben setzen wollen.
(7) Habe Hans das Benzin hinter die Maschine gesetzt?
(8) (weil) Hans das Benzin hinter die Maschine gesetzt hatte.

As these examples show, considerable detail has been incorporated into the description. They show further that, in comparison to other earlier transformational grammars (but in line with what seems to be a current trend), many more alternatives have been built into the phrase structure, with adjustments like the subject-object transposition in the passive carried out by obligatory transformations. The reasons for this are varied (see below for some reservations); the result is a demotion of the kernel-nonkernel distinction, if not its abolition at least as far as any matching with an empirical contrast between basic and derived sentences is concerned.

As the title indicates, Bierwisch's main concern is the verb. Because of the central importance of the verb in the structure of the sentence, the work is basic for any future work on German syntax, especially so in a theoretical framework which has as one of its prime commitments the description of all areas of a language in such a way as to maximize the interconnections between them. Full verbs (that is, excluding modals, sein, and auxiliaries) are classified according to the following criteria: (a) degree, i.e. the number of nominal phrases with which they can be construed; (b) case government; (c) government of other features than case, e.g. directional adverbials, locational adverbials; (d) capacity to occur in passive constructions; (e) occurrence of various kinds of embedded complements, supplied transformationally; (f) necessity or possibility of reflexive objects. As mentioned, cooccurrence potentials of bases are in general not distinguished, but at least one such category is made for verbs occurring only with es as subject; and an inspection of the lexical rules shows that a number of further such restrictions could be stated in a fairly straightforward if messy way.

Bierwisch is careful to point out the provisional and limited nature of this classification. Even with such a list the problems of cross classification become formidable, and the author mentions (170–1 fn. 36) the need for some kind of new notation in phrase structure rules—for instance, syntactic distinctive features—to cope with such complex networks of relations. If one pushes the parallelism with phonology far enough, one would expect the development of a system of universal distinctive features in syntax as in phonology. There have already been movements in this direction.

To circumvent at least some of the practical difficulties entailed by such complexities, Bierwisch makes liberal use of two devices. Both occur in rule F 22 (48):

\[ \text{Advb} \rightarrow \begin{cases} (\text{Ag} \text{ Advb'} \text{ wenn: } - + ... + V_{\text{act}} \\
\text{Advb'} \text{ sonst} \end{cases} \]

The first device is illustrated by the symbol \( V_{\text{act}} \), which is immediately defined
as one of a list of 18 verb classes already developed at this point—namely, those
that can occur in the passive; ‘Ag’ stands for the agent in a passive construction.
The second device is the use of ‘...’ in the restrictive environment of the top
line, the dots functioning as a variable over any string of phrase-structure sym-
bons (or null). At our present stage of knowledge there can be no quarrel with
either trick. Problems arise only when there is a question of comparing two
analyses for simplicity. One could insist that these abbreviations be eliminated
(i.e. expanded) before undertaking the comparison; this is probably the best
way to think of the first type of abbreviation. The second abbreviation changes
somewhat the structure-assigning properties of the grammar and also eliminates
many of the arguments for ordering the developments of constituents and for
ordering them in the generated strings. Such questions are at present fairly
academic. In the long run they must be faced, however, and one is leery of inno-
vations which increase the flexibility of the system too much. The problem in
writing such a grammar now is not to increase but to decrease the number of
possible analyses. (One revision is necessary in the rule quoted. ‘Advb’ should
be in parentheses in the top line, since it is surely not the case that every German
passive sentence must also have an adverbial of time, manner, or place.)

Bierwisch sets up the constituents of simple German sentences in the order of
dependent clauses; it may be of some interest to note that this decision was
arrived at independently by Bierwisch and his group and by the present re-
viewer, as were a number of other not too obvious details. Perhaps some other
even more ‘abstract’ order will prove eventually to be more efficient. There is
something to be said for grouping the parts of the sentence into clumps with
maximum inner cohesion (i.e. networks of dependencies) and maximum inde-
pendence from each other. Such an analysis would put the tense elements for
example with the adverbials of point time, certain sentence adverbs with items
like Bierwisch’s imperative marker and question formant; note the impossibility
of Geh bestimmt nach Hause! as an imperative, and the fact that Hans fährt
schon nach Berlin is ambiguous in a way that Fährt Hans schon nach Berlin? is
not. Obviously the use of devices like ‘...’ has a direct bearing on such questions.

If of two analyses the simpler one is to be chosen and if simplicity is to be
measured by the number of symbol-tokens in a set of rules, then the grammarian
must posit as little structure as possible. That is, if we have a class or sequence
of items we will gather them into an explicit class or construction only when it
pays off in terms of the total analysis. Decisions about constituent structure
and grouping then become directly dependent on the number of times the items
are mentioned and an automatic premium is placed on generality. A number of
simple arithmetical consequences follow from this view of simplicity. Where k
is the number of items in a possible class and m is the number of times the class
occurs in the grammar, then if either k or m is two, the other must be at least
four for the grouping to pay off; if either is three then the other must be at least
three; if either is one, then it never pays to group. On this basis, several of Bier-
wisch’s cuts and groupings in the phrase structure seem unnecessary; ‘Obj’,
‘Adv’, ‘VE’, ‘HV’, ‘Advb’, etc. might all be replaced immediately by the items
that ‘come from’ them. Several of them seem unnatural from the point of view
of 'intuition about linguistic form' as well. For instance, in the sentence

\[\text{Hans hat gestern in der Fabrik das Benzin hinter die Maschine gesetzt.}\]

there seems to be no reason to group 3 and 4, or 3, 4, and 5 together as constituents.

Bierwisch posits the usual four cases of German grammar. It would be possible, of course, to consider the nominative the absence of a case symbol, as in the traditional distinction between the nominative and the 'oblique' cases. In this way a number of morphophonemic rules can be eliminated. Whether or not the increase in complexity in transformations would outbalance this saving is difficult to say in advance.

The treatment of reflexive verbs leaves something to be desired; Bierwisch discusses alternative analyses, 46–7. He sets up reflexive categories not only for verbs which are necessarily reflexive (schämen) or which differ markedly from their nonreflexive counterparts in either function or meaning (denken, vorstellen) but also for many verbs with no apparent difference in the two uses (waschen, sehen as a verb taking an infinitive complement, etc.). Hence there is heavy overlapping among many of the classes. A more serious objection is that, unless the collocation of objects with verbs for the nonreflexive members of such pairs is formulated so as to exclude identity of subject and object—a formidable if not impossible task for phrase-structure rules—there will be two ways of deriving such sentences as Ich sehe mich von Feinden umringt, one with see analyzed as a \(V_{rc}\), one in which it is a member of the class \(V_{1c}\), with corresponding differences in the derivational histories of the object mich. Yet there is no conceivable ambiguity that could be traced to this source, as there is, for instance, with some verbs that are used both reflexively and not: Ich empfehle mich 'I take my leave', 'I recommend myself'. This discussion raises an interesting point. If sentences like Ich gehe zu mir, Ich bin mir gestern auf der Straße begegnet, Walter bittet sich [Walter] um das Salz, Ich biete mich mir an are to be excluded as ungrammatical, how are these restrictions to be carried out? In each case what is involved is the requirement that two positions in a sentence be filled by items that are not identical, and the items are drawn from very large classes indeed, infinite in fact if we include transformational expansions. Incidentally, with third-person pronouns identity is allowable: Er geht zu ihm etc. There is no neat way to handle restrictions of nonidentity in phrase-structure rules, whereas transformational rules constantly make use of relations of identity and nonidentity in their conditions. One might conclude that the lexical replacements should be ordered after the transformations—to avoid setting up \(n\) subclasses for \(n\) items, i.e. all personal names except Walter, all city names except Peoria, etc. Or one might maintain that the anomalous sentences are odd semantically, not syntactically, and add markers having to do with logical reflexivity and the like to the entries for transitive verbs.

As indicated above, Bierwisch includes in the phrase-structure rules elements that determine questions, subordinate clauses, and imperatives. Of these decisions, the first seems more plausible than the other two. With no further options
the questions become yes-no questions. Suppletive questions follow from the operation of a general optional permutation. A question transformation would have the effect merely of adding an item. Other things being equal, such an optional item is most simply accounted for directly in the phrase structure. Since subordinate clauses must be embedded in special rules anyway and since the strings are set up so as to go directly into such constructions, there seems to be no necessity for supplying a special category in the phrase structure. Any special device needed, for instance to block the application of the finite-verb shift in dependent clauses, could be easily supplied in the individual embedding rules. As for the imperative, again a special rule is needed in any case for ellipsis of the subject, which must be left in for reflexives to be properly produced. The imperative must eventually be linked up with the tense system when restrictions on time adverbials are considered (*Geh gestern nach Hause!). Such restrictions would be automatically taken care of by considering that an imperative transformation operated on strings with future or possibly nonpast tenses.

Such strategies, and others such as the introduction of the passive in the phrase structure and the use of many dummy symbols to act as substituends in transformations, result in part from the general problem of specifying the derived phrase structure for transforms from rules in which items are simply added at some point. It seems to me that recent trends are merely avoiding the general problem in an ad-hoc fashion. Many of Bierwisch's decisions here have received added support from the viewpoint of a semantic theory in the recent work by Jerrold J. Katz and Paul M. Postal, An integrated theory of linguistic descriptions (Cambridge, Mass., 1964).

One of the trickiest problems of German syntax is that of the modals and werden. Bierwisch derives them initially from the constituent Aux and allows at most three items to occur together from the list Passive, Perfect, and Modal (with a possibility of several modals). He discusses in considerable detail the problems involved; e.g. given more than one modal in a series, which ones can cooccur? As an alternative to his analysis he suggests introducing the modals as a special subclass of the verbs together with a complement symbol which would act as a substituend for a generalized transformation supplying a main verb complex (plus adverbs etc.). The latter analysis would allow an indefinite number of modals to be strung together, leaving the decreasing understandability or grammaticality to be explained by a general theory of sentence complexity and its relation to self-embedding. This would also explain why, for instance, Ich weiß, daß er nicht kommen müssen will seems stranger than Er will nicht kommen müssen. Although Bierwisch mentions the double interpretation of such sentences as Ich soll mit ihm bekannt gemacht werden (68), it seems to me that neither of the suggested analyses comes to full grips with the problem. The ambiguity is explained on the basis of two sets of items, Md' and Md, of which the first includes the second along with werden and möchte, which is reasonably considered to be different from the secondary subjunctive of mögen. The details of the analysis seem a little strange in any case. Md' becomes Md or werd or möchten, the latter two with the infinitive formative; then Md becomes Vw with the infinitive, that is, the regular modal verbs. Thus every modal will be analyzed as a
member of both $Md$ and $Md'$, and there will be no constructional homonymity. Clearly, separate classes are required; otherwise we are doing something like saying that John is my friend is ambiguous because John can be analyzed both as a proper name and as a noun-phrase. But werden itself can have a double interpretation. Notice the parallelism in these pairs of sentences:

(a) Er muß gestern in der Stadt gewesen sein.
(b) Er wird gestern in der Stadt gewesen sein.
(c) Er muß morgen abfahren.
(d) Er wird morgen abfahren.
(e) Er muß in der Stadt sein.
(f) Er wird in der Stadt sein.

The last two are ambiguous, and their meanings match the meanings of the first two pairs. Let us call the interpretation associated with (a) and (b) ‘external modality’ (paraphrasable as Es muß der Fall sein, daß er in der Stadt ist) and the interpretation of (c) and (d) ‘internal modality’ (Es ist gezwungen, in der Stadt zu sein). Now werden, in its role as modal or future auxiliary, unlike the regular modals, occurs only in the present tense and only in finite forms. That is, we do not have in German sentences like

(g) *Er muß in der Stadt sein werden.
(h) *Er wurde in der Stadt sein.
(i) *Er hoffte, in der Stadt nicht sein zu werden.

If we substitute müssen for werden in each of (g)–(i), the results are all perfectly normal German sentences. However, with the exception of the counterpart to (h), the only possible interpretation for the newly introduced müssen is what I have called the internal modal one. And when we consider the new sentence (h)—Er mußte in der Stadt sein—more closely, we see that it demands a special interpretation in order to preserve the sense of external modality, namely, an interpretation associated with the literary device of ‘erlebte Rede’, and it is exactly parallel to the use of past tense in unusual contexts in such sentences as ... morgen ging sein Flugzeug, quoted in J. Erben, Abriss der deutschen Grammatik 437 (Berlin, 1961). Thus in the external usage, the limitations on the modals seem to be the same as for werden. The interpretation is even clearer in a sentence like Er mußte in der Stadt gewesen sein. I cannot suggest any final answers to these problems, but I would at least raise for discussion the possibility that the second alternative for introduction of modals (Comp plus modal) with unlimited possibilities for embedding be associated with the internal interpretation, while the second interpretation be accounted for (either transformationally or in the development of Aux) in such a way that the item can occur only once and only as the finite verb in the present tense. These questions are apparently related to those about the restrictions on modal adverbs in embeddings mentioned below.

Bierwisch’s simple transformations are mostly obligatory; some are dependent on optional items like the passive auxiliary. Among other results are rearrangements (both obligatory and optional), verbal suffix selections, and reflexive pronoun selection. The author rejects the use of a special phrase boundary symbol as suggested by the reviewer, Lg. 38.263–9 (1962), and gives a number of reasons (96–8). Once again, it does not seem possible to reach any kind of de-
cision at this stage. Such a boundary marker makes possible the formulation of very general—in some cases too general—permutational rules. Bierwisch and others in his group make use of a specially defined variable ‘SG’ (‘Satzglied’) defined by a list. The general permutation which allows the placement of any sentence element at the head of (certain types of) sentences, however, is not satisfactory as it stands (103). In the first place, it can be reapplied over and over again, whereas more than one application will result in ungrammatical strings. Second, it must be stated that when SG = Nom; the nominal element cannot be part of a larger sentence element (*Einem schönen Mädchen saß er neben). A possible alternative analysis might put the element ‘Ps’ (person-number suffix on verb) at the head of every string from the outset (where it would also be immediately next to the subject which selects its ultimate form). An obligatory transformation might then operate to place some element, defined either as SG or by a boundary marker, before Ps, leaving the choice of element optional. In embedding transformations Ps could be shifted to end position, thus preventing the application of the rule just mentioned, as is necessary. The rule would automatically operate just once. Finally, Ps would be located at precisely the right place for the attachment of the finite verb base.

A few other errors and queries in the singulary transformations:

T 12 (verbal suffix selection, 107), for wir read ich. The selection for conjoined nominals must precede the selections for ich. One problem that must be taken care of (by ordering if by no other means) is that conjoined clauses, which replace abstract nominals, require the third singular suffix (*Daß er kam und daß er mich sah, überraschten mich).

T 15 (insertion of word boundary on verb, 109) should have an additional condition ‘where X ≠ Z/’ to prevent reapplication of the rule.

T 16 (verb-second shift, 111) should change ‘Ps’ to ‘Ps,’ where i = 1, 2, 3, p, 2p, since Ps has already been replaced in T 12.

In the discussion preceding T 21 (114, see also 85) it is implied that the conditioning of absence of ge- on participles is morphological (if the verb stem contains a morpheme boundary no prefix is added). For this reason Bierwisch sets up verbs like studieren with a boundary as stud + ier (but cf. gereinigt). It is pointed out that this representation is relevant also to the rules for stress. But surely the rule for the elimination of ge- is more directly formulable in terms of stress. Of course, the representation stud + ier could be considered just a way of marking stress. But it is a fact of German that the stress of verbs in -ier- is completely predictable, i.e. to be accounted for by a rule rather than a separate addition in each representation. In fact most German stress is completely predictable, and if the unstressable prefixes like be-, ent- etc. are represented with the unstressable vowel schwa, the number of items not covered by the rule ‘Stress the first stressable vowel’ becomes very small indeed. Then the phonetic realizations of schwa will include a lax mid front vowel in prefixes like er-, optionally in some dialects.

T 24 (W-morphology, 115). The selection of wer etc. versus was is explained on the basis of a contrast between personal and other substantives. This ac-
counts, to be sure, for the oddity of such sequences as *Was hat die Tatsache überrascht? but leaves unexplained such sentences as Was ist er? (Ein Professor). That is, there seems to be some sort of connection with classificational sentences too (cf. the incongruous answer: Der Professor).

T 25 (morphology of the relative, 116). The lack of genitive for the relative welch must be accounted for directly in this rule or by a later change.

T 28 (propronominal, 117). Da(r) is introduced as a substitute for es in prepositional phrases, but other pronouns—i.e. plurals—can also be represented by da(r). What is necessary is that they be derived from nonpersonal nouns. For this reason, it may be desirable to retain the underlying noun in the pronominal representation at least past this rule.

T 29 (preposition order). One of the more interesting details of Bierwisch’s analysis is that prepositions are introduced to the right of the nominals governed by them rather than before them—for several good reasons, but partly because of the dependent order of the verb phrase decided on as basic. In this rule, prepositions are shifted to prenominal position. As formulated, however, T 29 doesn’t work, since the structural description fits what is left of the (double) preposition after the rule has been applied, and in some cases the rule will simply pass the preposition on down the line when there is a second nominal preceding the one governed. Suppose, for instance, that we begin with the string leading eventually to the sentence Gestern hat Hans mit großer Mühe das Benzin hinter die Maschine gesetzt, at this point with both prepositions after their nominals. The rule will continue to apply until we have *Gestern hat mit hinter Hans großer Mühe das Benzin die Maschine gesetzt. Incidentally, this problem does not arise if there is a phrase boundary in the strings at this point.

The first embedding transformation discussed by Bierwisch (122–32) operates on pairs of strings with identical noun phrases occurring in one of the sentences as object of a verb like füllen, lassen, sehen (the traditional a.c.i. verbs). The rule yields sentences like Ich sah ihn bei dieser Gelegenheit seiner Frau helfen (126). As this example shows, ambiguities arise from the fact that the ‘free’ adverbials can have their source either in the matrix string or in the constituent (embedded) string. According to Bierwisch, the ambiguity does not occur with temporal adverbs, which are always interpreted as coming from the matrix string; and he therefore excludes the possibility of such an adverb in the embedded string—one point incidentally at which a different analysis in the phrase-structure rules would simplify the statement of the transformation. Further, he cites the example *Ich habe ihn vor zwei Stunden seiner Frau den ganzen Vormittag helfen sehen to show that the occurrence of two such temporal adverbs is impossible. There are several comments to be made here. First, the example is bad (change Stunden to Tagen and the sentence is perfectly all right). Second, vor zwei Stunden and den ganzen Vormittag are not at all members of the same syntactic class; one is a point-time adverbial, the other an adverb of extent of time; the first but not the second can occur with perfective verbs: *Er schlief den ganzen Vormittag ein. Finally, examples can be found in which even point-time adverbials are ambiguous: Ich lasse ihn morgen nach Deutschland fahren;
although this example may merely show that lassen must be treated separately—a point which could bear looking into. The Duden for instance claims that lassen with infinitive can occur in the passive. In general, the whole problem of adverbs needs to be studied in detail. The situation can be clarified perhaps by noting that certain adverbials (of time, place, etc.) are tied in with the context of utterance. Thus we can have Ich sah ihn vor zwei Wochen seiner Frau am Freitag helfen. Such adverbials are always interpreted as directly related to the matrix sentence; exceptions are indirect discourse and related embeddings.

On p. 129 Bierwisch mentions the possibility of the ellipsis of the object noun to yield sentences like Man hörte rufen or to explain the ambiguity of sentences like Er ließ ihn rufen. But the indefinite pronoun man, which must undergo the agent ellipsis in passives (92) can be used to good purpose here. The indefinite subject man is simply eliminated in all governed contexts. The sentence quoted above would then have the two sources Er ließ man C1 plus Man ruft ihn or Er ließ ihn C1 plus Er ruft man. (So much for the little man that isn't there.)

Further embedding transformations discussed by Bierwisch are illustrated by Ich fühle mich durch die Maßnahmen getäuscht and Sie ist den ganzen Tag im Bett liegen geblieben. Finally, there are several transformations embedding infinitive phrases with zu, differing according to the identities required between the nouns in the two underlying strings, the possibility to carry over the perfect auxiliary, and so on. Complications arise from the fact that such phrases can be transposed to the end of the sentences, sometimes leaving behind an es; and these two results are sometimes optional, sometimes obligatory. The extent to which a moderately explicit approach really turns up new facts and problems can only be appreciated by someone who has tried to dig up such information from existing dictionaries and grammars.

In such transformations, says Bierwisch, as opposed to the embeddings without zu, there are no restrictions on adverbials: Er hat gestern versprochen, dich morgen zu besuchen; but cf. *Er hat gestern versucht, dich morgen zu besuchen. One of the major oversimplifications is in the constituent Pv ('Präverb'), which includes negatives and other items like bestimmt. Actually, the negatives work so differently from other items in the class that it is doubtful that they should be considered the same at any level of the rules. Thus Bierwisch gives (127) the sentence Ich habe ihn nicht veranlaßt, nicht zu kommen to show that both strings can carry over a Pv. But the example works only with negatives in the second string; try substituting sicher or bestimmt for the second nicht. It seems that a class, or better several classes, of 'modal' or 'sentence' adverbs (not including the negatives) must be distinguished. They are always interpreted as coming from the matrix sentence, and where by position they cannot be so interpreted the results are ungrammatical—except again in indirect discourse and related types. Compare the following examples:

Du hast ihn leider nicht zu erreichen versucht.
*Du hast versucht, ihn leider nicht zu erreichen.
*Es ist möglich, daß sie leider nicht kommen kann.
Sie hat gesagt, daß sie leider nicht kommen können.
Sie besteht darauf, es sicher nicht gewußt zu haben.
At several points in the book, Bierwisch suggests that certain transformations when reapplied lead to decreasing grammaticality, citing these examples (133):

\[ \text{Er wird essen gewollt haben.} \]
\[ \text{*Er wird den Arzt holen lassen gewollt haben.} \]
\[ \text{*Er wird ihn im Bett liegen bleiben sehen gewollt haben.} \]

But perhaps this is not a matter of grammaticality, but something else, complexity or the like as a general function of degree of self-embedding, and to be explained not by the grammar but by a theory about the capacities of the language user, with striking differences for written and spoken styles, especially in German. Thus most hearers would probably flunk a test for retention or understanding on the following sentence presented orally (from a passage by Einstein in George Condoyannis, *Scientific German* [New York, 1957]):

Wir könnten uns allerdings damit begnügen, die Ereignisse dadurch zeitlich zu werten, daß ein samt der Uhr im Koordinatenursprung befindlicher Beobachter jedem von einem zu wertenden Ereignis Zeugnis gebenden, durch den leeren Raum zu ihm gelangenden Lichtzeichen die entsprechende Uhrzeigerstellung zuordnet.

One minor problem arises in the rule for transposing the infinitive phrase, T 10 (143). One of the elements in the structural description is \( C_A \), an item introduced as a substituend for adjective complements. But at this point \( C_A \) has been replaced by the infinitive complex and hence can no longer be used for the shift. The situation can be easily taken care of by adding a rule \( C_A \rightarrow \text{Comp}_A \) or the like in the phrase structure and formulating the substitution in terms of this lower node. The substituted infinitive phrase will then receive the analysis \( C_A \) and the transposition rule will operate correctly. The same kind of amendment might simplify matters in a number of places in a German grammar, for instance in the transposition of relative clauses and other dependent clauses of various types.

The last chapter of the book is a less formalized discussion of some of the problems involved in the grammar of tense and mood. The rules given in earlier sections of the book yield all combinations of tense and mood indiscriminately, although it is clear that some are ungrammatical (e.g. in complex sentences) while other possibilities are natural only within a larger context either explicit or ‘understood’ (e.g. past perfect and subjunctives of several varieties). Incidentally, Bierwisch sets up two tenses and two subjunctives as completely unrelated items. For morphological rules, if not earlier, the second subjunctive must be related to the Past formative. There is probably no need for a special representation of the present tense.

The discussion centers mainly around three situations: indirect discourse; sentences, such as unreal conditionals, where secondary but not primary subjunctive is possible; and limitations on cooccurrences of different tenses in complex sentences and sequences of sentences such as question and answer. For indirect discourse, Bierwisch suggests an analysis in which \( \text{daß} \) plus any sentence can be embedded as the object of a verb of saying. From this common source are derived indirect discourse, primarily by substitution of nominals from the matrix sentence for pronouns in the embedded sentence, secondarily by optional
use of subjunctive formatives; and then both direct discourse, by obligatory
deletion of dann, and indirect discourse without dann, optionally. Thus, from the
two sentences Peter hat (es) mir damals gesagt and Du machst mir unberechtigte
Vorwürfe we can derive (using in part machinery already set up in the earlier
rules) not only the direct discourse form but also Peter hat mir damals gesagt,
ich mache ihm unberechtigte Vorwürfe. In the indirect discourse rule, a present
tense (‘T1’) can either remain or be replaced by primary or secondary subjunctive;
all other tense-mood formatives remain unchanged. In the discussion of
tense combinations, Bierwisch introduces a rule which substitutes the preterit
for the perfect with certain verbs, to account for certain exceptions to the limitation
on combinations of perfect and other tenses. A neat explanation is thereby
provided for such matchings as this:

Peter hat gesagt: Ich war noch nicht dort.
Peter hat gesagt, er sei noch nicht dort gewesen.

It can be assumed that the preterit substitution (sein being one of the verbs in-
volved) occurs after the operation of the indirect discourse rule, so that the under-
lying second string is ich noch nicht dort gewesen bin (162) These areas are subject
to considerable individual, regional, and stylistic variation. It seems likely that
for some varieties of German all preterits are secondary, and used only in certain
styles.

At one point early in the book, the author casts doubt on the interest that a
really complete grammar of a natural language might have, which would obvi-
ously consist of many thousands of sometimes very special rules. With this
conclusion I cannot agree. As more regularities of the language are brought into
the grammar, more and more alternatives are eliminated, and we come closer
and closer to grasping the unique structure of the language. Bierwisch’s study
and those of his colleagues have carried us a good bit closer to an understanding
of the structure of the language.

Die Wissenschaft von deutscher Sprache und Dichtung: Methoden, Probleme,
Aufgaben (Festschrift für FRIEDRICH MAURER, zum 65. Geburtstag am 5.
Januar 1963). Herausgegeben von SIEGFRIED GUTENBRUNNER, HUGO MOSER,
WALTHER REHM, HEINZ RUPP. Pp. xvi, 518. Stuttgart: Ernst Klett Verlag,
1963.

Reviewed by HERBERT PENZL, University of California, Berkeley

This festschrift for the well-known Germanist at the University of Freiburg,
Friedrich Maurer, contains, after a tabula gratulatoria, twelve articles headed
‘Zur Sprachwissenschaft’ (3-236) and thirteen headed ‘Zur Literaturwissen-
schaft’ (237-497). These are followed by Maurer’s personal bibliography (499-
515), and an impressive list of 76 dissertations dealing with German dialectol-
ogy, onomastics, historical lexicology which Maurer directed between 1932 and
1962 (515-8).

The diversity of the contributors to this volume offers an excellent opportuni-
ty to survey the status of linguistic and literary research in the German field
in Europe and especially in Germany. The contributions by scholars in Modern