

WORD-FORMATION REVISITED  
Topical aspects of English word-formation

ESKO V. PENNANEN

1. Revisiting word-formation (WF for short) is in a way comparable to revisiting Brideshead, that impressive English countryhouse, whose details are lost when it is contemplated as a whole, and the other way round: the multiplicity of detail blurs the outline of the whole.

WF, the branch of the linguistic science that studies the patterns on which a language forms new lexical items out of the elements provided by the primary vocabulary, is recognizable as an individual category of grammar. However, in spite of the ever-growing body of special studies the contours of the discipline in its entirety remain fluid and vague. The student of WF has not the inward eye of Braque, Picasso and other pioneers of cubism, who could paint things as they *knew* them to be, not as they appeared to the eye.

2. In an earlier paper (Pennanen 1972) I attempted a survey of the situation in WF at that date. Little or nothing has essentially changed since then (cf. Bauer 1983 : 1). There is no single theory of WF in any natural or planned language (IAL or International Auxiliary Language), although one of the main objectives of the IALs was an 'ideal' system of vocabulary and WF, characterized by monosignificance and reversibility (Adams 1973 : 201ff.), an approximation of which has been achieved in scientific terminologies, e.g. organic chemistry. Bauer goes on to emphasize that there is no agreement either on the kind of data relevant to the construction of such a theory. But something *has* changed, for WF, which has been neglected by the leading schools of grammar from neogrammarians to generativists, is "suddenly of central interest to linguists of all persuasions" (Bauer l.c.). Significantly enough, the motive is not primarily the search for a deeper insight in the problems of WF, but the light WF throws on other aspects of language.

3. As a bibliographical survey is not within the scope of the present paper, it will be sufficient to mention only a few major works published since my paper of 1972.

Such are: the second edition of Koziol's pioneering *Handbuch der englischen*

*Wortbildungslehre* (1972), *An Introduction to Modern English Word-Formation* by Valerie Adams (1973), Bauer's *English-Formation* (1983) and Tournier's doctoral thesis *Reserches sur la lexicogénese de l'Anglais contemporain* (1983) as well as Appendix I in *A Grammar of Contemporary English* by Quirk *et al.* (2nd ed. 1984).

For monographs and articles of more or less specialized character reference is made to Gabriele Stein's excellent bibliography *English Word-Formation over two Centuries* (1973) the relevant passages in Kastovsky 1978 and 1981, and also the critical bibliography in Tournier (1983 : 435—493).

4. Before going on let us throw a glance on some of the reasons on account of which the study of WF has until recently lagged behind the rest of linguistics. The methods and ways of WF to fulfill its task of producing new lexical items to supply the needs of meaning are so manifold and inconsistent that there seems to be no common denominator to accommodate them above, which means that it has not been possible to arrive at the kind of generalizations that are necessary for establishing a theory. This is particularly true of the English WF, which Sapir (1949 : 110—121) characterized as "a perfect hornets' nest of bizarre and arbitrary usages concealed behind a superficial appearance of simplicity."

5.1. No wonder, then, that WF is described by Bauer (1983 : xiii) as "a confused area of study", but he is right in tracing such confusion back to the terminology used in WF studies.

The very term *word-formation* is ambiguous, for it refers to the process, the product and the area of linguistics concerned with these two. German, to take an example, distinguishes between *Wortbildung* (process), *Wortbildung-en* (product) and *Wortbildungslehre* (discipline).

Conversely, one and the same concept may be referred to by a number of different terms. *Conversion* (CVN for short), the transference of an item from one form class to another without morphological change, goes by the name of *zero-derivation* or *derivation by a zero suffix*, *functional change* or *functional shift*, cf. Marchand (1969a: 36) In an earlier paper (1963a: 164) he applies the German terms *unmittelbare Ableitung* or *Konversion* (=French *dérivation immédiate*) to the derivation of a verb from a substantive without the aid of a 'derivative morpheme'. Further down we shall come back to the distinction between conversion and 'direct' derivation.

Lyons (1977 : 523 n. 7) points out that CVN and zero-derivation, though used as synonyms, have different theoretical implications, and speaks of derivation by means of the affixation of an *identity element* and an *identity operation*, which can be said to have been carried out between the base and the new lexeme, "a process linking the two lexemes but defining the form of the new lexeme as identical to the base" (cf. Bauer 1983 : 32 with further references). Here we have an excellent example of explanation by means of terminology,

something that has been held up against TG-grammarians (Robinson 1975 : 138—144). Such procedure explains as little as the taxonomies resulting from structuralistic analysis could explain the problem arising from the data they are derived from.

5.2. It is common knowledge that concepts and categories are not always sharply delimited against each other in WF. A generalization is bought at a price: Bauer's definition of back-formation (BF) (1983 : 230—232) as "the formation of new lexemes by the deletion of actual or supposed affixes in longer words" makes BF 'a special case of clipping'. True enough, but the distinction between BF and clipping is that the former category is class-changing, the latter class-maintaining.

To define *space-time* as a back-formation from its attributive use in *space-time continuum* (Anna Granville Hatcher *Modern English word-formation and Neo-Latin*, reviewed by Fred W. Householder Jr. in *Language* 51: 597—601) is to carry to the extreme the zero-craze, which used the term *zero* as an equivalent of the word 'not' (Haas 1957: 33—34).

5.3. Another concept universally accepted as an axiomatic pillar of WF is that of the complexity of the new lexical items. Thus Bauer (1983 : 30) defines WF as "the production of complex forms", adding that "other scholars use 'complex' to mean 'produced by derivation'", cf. Marchand (1969a: 2) and Langacker (1973: 79, 186).

The same idea is expressed by the principle of diagrammatic iconicity: more of form corresponds to more of meaning. For one thing, there is no information about the criteria of 'more meaning'. Secondly, the rule does not hold in a reversed form: not only does CVN produce new lexical items with the same amount of form but BF does the same with less. Either complexity must have some either than quantitative meaning or CVN and BF cannot be classified with the categories that conform to the rule of diagrammatic iconicity.

Marchand is more specific in declaring that WF can only be concerned with composites, analysable as syntagmas made up of a determinant and a determinatum. Consequently he introduces the zero-morpheme to make conversions into composites and reverses the linear order of the process of BF by declaring it to be of diachronic interest only (see Pennanen 1966 : 9—10, 1971: 13—16, 1980a and 1982). It should be added that both Bauer (1983: 230ff.) and Dressler (1984) among others emphasize the character of BF as a synchronically productive process in English WF.

A further aspect of complexity is the question of the direction of the word-forming process in items which are morphologically unmarked. Marchand (1963b and 1964b) has proposed a set of criteria for such formations, but they are not water-tight as Adams (1973: 42, 55n), Ljung (1977: 165—167) and others have pointed out.

Marchand's way of dealing with conversions and back-formations is typi-

cal of any theorist at odds with his data: the items and elements that do not fit the superordinate pattern are brought to conformity by means of *ad hoc* rules or reanalysis, or by explaining them as exceptions (possibly belonging to a different part of the grammar) or by simply neglecting them as irrelevant or quirks, cf. Plank (1985a: 7).

6. Although the present-day approach to WF is synchronic both in theory and practice, diachrony cannot be totally left out of consideration. The load of the past that the present carries on its shoulders is a source of various anomalies (Adams 1973: 199), but it is also the key to many synchronic forms and patterns. Phonological and morphological change, lexicalization, idiomatization, grammaticalization etc. are influences that often result in the loss of transparency and motivation, of the independence of a free morpheme and so forth.

An interesting example is the so-called *cranberry* morpheme (Bloomfield *Language*: 159–160), a quasi-genuine element, which does not occur in isolation. If the description of *cran* as a dialectal allomorph of *crane* is accepted, *cranberry* can be looked upon as a normal compound, as Brandt (1984: 6) suggests, but Seppänen's reservations (1985: 5f.) with regard to a final answer to the question are worth notice. This one single example shows that by far too little attention has been paid to WF in dialectal and informal speech including jargon, cant and slang. The relevance of diachrony to synchronic analysis of WF is obvious in the case of what Jespersen called *grammatical homophones*, i.e. words belonging to more than one part of speech, and their distinction from similar items resulting from "the deliberate transfer from one part of speech to another" (Zandvoort 1957: 265), that is to say CVN, the temptation being to see derivational relationships where there are none. The same problem arises in the area of loan words, the derivative relationships having the tendency of being taken over to the receiving language, cf. Marchand (1969a: 5–9).

7. Above (5.1.) attention was called to the risks involved in putting the mark of equation between superficially analysed terms of WF and applying them trans-linguistically (conversion — *dérivation immédiate*). This is an indication of the language-special character of WF. In other words, there is no universal pattern of WF, which could be applied to individual languages. Even if the categories of affixation and compounding are common to a large number of languages, they operate within the boundaries and limits of each individual language in question. It is with English word-formation, French word-formation, German word-formation, etc. that we are faced with on the plane of reality.

The unparalleled progress in linguistics since the Second World-War was so overwhelmingly American in inspiration and execution that it seems legitimate to speak of an Anglo-American invasion of European linguistics (cf. Tournier 1983: 395). Thus it is understandable that there has been a tendency to extend

not only grammatical and syntactic but also derivational models, patterns and concepts to other languages than English, in which language, however, they are fully valid.

Exclusive dependence on English is one of the principal reasons for there not being any significant breakthrough in the development of automatic understanding of a natural language, especially in the domains of semantics and pragmatics, such as these present themselves in Winograd's micro-world of blocks (Prof. Fred Karlsson's comment on *On Understanding a Natural Language*).

8.1. When Marchand (1963a and 1964a) speaks of the derivation of desubstantival verbs in French and German putting F. *huiler* and Germ. *ölen* on the same level with E. *oil*, his argument is that all three have been derived without the aid of a derivative element. However, he disregards the terminations of the French and the German verb as opposed to the 'zero-termination' of the English one, as can be seen from the following conspectus.

Table 1. 'Direct' derivation of desubstantival verbs in English, French and German

Base	Deriv. sfx	Inf. ending	Verb
oil	∅	∅	(to) oil
huile	∅	-er	huiler
Öl	∅	-en	ölen

If the English verb is to be compared with its French and German counterparts, its analysed form contains *two* zeros, *oil*+∅+∅, to mark the fact that in English verbs have no termination in the infinitive. To explain *-er* or *-en* as inflectional elements marking the infinitive does not sound very useful, as the affixation of an ending presupposes some sort of null form, in this case a verbal one, to append it to: there is no *verb* /yil/ or /ø : 1/, cf. Pennanen (1984b).

8.2. But there is an additional confusion of analysis: on one hand the description of the word-forming process, on the other the lexical analysis of these items such as they are entered in respective lexicons. Now, the abstract lexemes /oil/, /yil/ and /ø : 1/ are not members of one definite word class, but they are able to join different form classes under different conditions, see Table 2.

Table 2.

Lexeme	/oil/	/yil/	/ø : 1/
noun	oil	huile	(das) Öl
verb	oil	huil-er	öl-en
adj.	oil-y	huil-eux	öl-ig

Seen from this angle the English lexeme /oil/ can join both the noun and the verb paradigm without the help of any derivative element: in relation to their

abstract 'base' both are zero-derivations, neither being prior to the other. The French and the German lexeme can enter the noun paradigm without an affix, which becomes necessary to admit them to the verb paradigm, while all three need a derivational suffix to qualify them as adjectives. The zero operating here is clearly a paradigmatic one, the kind of zero Saussure had in mind when he introduced this concept.

In the light of the preceding observations it would seem advisable not to extend the category of CVN to other languages than English without restrictions, even if there are cases of identical types of CVN, i.e. transfer of an item from one part of speech to another without morphological change. There is no comparative survey of the role of CVN in the WF of more than two or three languages. Discrepancy between languages may also apply to a type of a category of WF that is common to each: according to Lipka (1968) there is no counterpart in French to German *kugelsicher* E. 'bullet-proof', F. *à l'épreuve des balles*, cf. however Germ. *haushoch* — E. 'high as a house'.

Secondly, it becomes evident that a distinction must be made between the concepts *lexeme* and *word* in studies of WF and lexicon. The lexemes may be compared to superordinate terms, whose hyponyms, i.e. realizations on the concrete (word) level are recorded in dictionaries. The lexemes remain abstract entries in the individual lexicons of the language members. Obviously this was Hockett's motivation in proposing additional word classes to comprise lexemes which can appear in two or more form classes without formal change (1958: 221ff.). Bolinger (1969: 37) would reduce the membership in parts of speech to a set of grammatical attributes that can be attached at will, while Halliday (1966: 51) comprises these 'hyponyms' as the 'scarett' of the lexeme in question, cf. Lipka (1971: 211ff.) and Kastovsky (1981: 78f.).

These considerations have also brought us near to the fundamental essence of the language-specific nature of WF: indeed, the very concept of word is language-specific (see e.g. Karlsson 1976: 109). Besides, there are languages in which it is not possible to distinguish such a category as the word. It goes without saying that in WF the concept of universals must necessarily be more symbolic than actual.

9.1. Further intractable characteristics of the word are these two: one, the word exists primarily and essentially in speech, and secondly, the word is fully realized only in the context, that is in an utterance, a phrase or a sentence.

The above statements are self-evident. The child acquires its native language (and eventually a second and even a third language) *viva voce*, by force of the spoken word, long before he or she learns to read and write. It is well known that young children love to play on language, forming words on the spur of the moment. Moreover, there have been and probably still are languages that exist only in the spoken form having no alphabet and orthography.

9.2. The word is not only fully realized in the sentence, but any phonetic

and/or semantic changes that it undergoes take place in context, never in an isolated word (Siro 1978: 361). Another consequence of the dependence of the word on the context is the fact that it is subject to the hierarchical relations that prevail between language and speech. As Gardiner (1932: 160f.) points out, intonation secures victory over syntax, which on its part, is more powerful than what he designates as 'word-form' (1932: 130ff.): *the then king, My account is overdrawn?* (1932: 204—205) are examples of the opposition of form and function.

9.3. The sentence is the stage on which the drama of WF is acted with a new lexical item as the final result in the complete sentence. But the new word has to take part in putting up the stage and the scenery: a primary lexical item is made to put on a new costume to suit its part in the play, and at the fall of the curtain it has become a fully qualified member of the cast.

In spite of the kind of context-based factors described above WF research mainly works on corpuses made up of isolated graphemic items with very limited or non-existent means of representing a whole set of parameters bearing upon the process of WF. More important still, the description of WF is based on lexical items that are acceptable to the normal usage ('norm') and as such recorded in the dictionary. This means that the tentative, experimental coinages that come and go in informal communication are neglected as 'occasional' (Germ. *okkasionell*); only such as are accepted by the speech community reach the stage of *usuell* ('usual' does not correspond to the German term, which is perhaps best translated by 'current' or 'accepted'). However, the occasional formations are of special interest and importance as regards the analysis of WF processes and their operation (cf. Kastovsky 1981: 155—156). Whatever the ties between the word and the sentence may be, both in quantity and quality, it does not follow that WF should automatically be classified as a part of the syntax (cf. Pennanen 1980a). Marchand emphasizes that WF syntagmas should be analysable according to the aspects of morphology, syntax and semantics, if possible all three in equal parts (Marchand 1969a: 31, cf. Pennanen 1982). At present, scholars as a rule add pragmatics (extralinguistic knowledge) to these, which represent such aspects as knowledge of the subject and the situation as well as the mutual knowledge of the speaker and the listener of each other. This has been accepted as an additional challenge to WF research; a conclusive solution of the problem can only be hoped for (see e.g. Kastovsky (1978: 353f.), Bauer (1983: 1) etc.).

The difficulties that may arise in this area are reflected in Kürschner's (1977: 137) suggestion to the effect that the categories of WF should be spread over different parts of the grammar, cf. Stein (1977: 219ff.).

9.4. The reciprocal relationship between the word and the sentence can be read in between the lines of Wundt's definition of the sentence, which is as follows: "The sentence is the arbitrary dismemberment of a complex presen-



tation into its component parts, these being placed in logical relations to one another" (*Die Sprache* ii: 245, English by Gardiner (1932: 141)).

It is normal that we know what we wish to say (Wundt's *Gesamtvorstellung* 'the complex presentation', cf. 'complex conceptual schemes' suggested by Plank (1981: 47f.) before knowing, that is to say deciding how we are to say it. The attribute 'arbitrary' denotes that we have the choice between several ways of expressing our 'complex presentation'; it also explains why WF rules are optional (Aronoff 1976: 35, Bauer 1983: 240). The 'bits' of the complex presentation are in their concrete form lexical items, chosen by the speaker in accordance with the needs of content and the logical relations. If there is not a lexical item ready at hand in the internal lexicon of the speaker, he forms one using the material stored up in the lexicon, or if this does not succeed for one reason or other, he may change his plan of dismemberment.

9.5. The mutual dependence of the word and the sentence on one another is the point of contact between WF and TG grammar.

In my earlier survey of WF (1972) I called attention to the neglect of WF by TG grammarians. In the present paper this is not a central question, and accordingly a few general remarks will have to do, particularly as there are very competent reviews of this question e.g. in Kastovsky (1981: 216–246), Bauer (1983: 2–6) and Karius (1983: 2–5, 26–34).

Ever since Lees's *Grammar of the English Nominalizations* (1960/1968) the major part of TG treatments of WF are concerned with nominalization and denominal verbs, Ljung's thesis on *English Denominal Adjectives* being one of the exceptions.

There are a few theoretical points that are open to discussion and not universally agreed upon. Lees regards WF procedures as rule governed processes with the same theoretical standing as normal syntactic transformations. On the other hand, it has been queried whether WF analysis has made a sharp enough distinction between transform and paraphrase, particularly as there are doubts about meaning-preserving transformations as a method of WF. Revard (1968: 17) called attention to the fact that in the process of converting nouns into verbs in English semantic features were added or lost 'in some fashion' and that it is the question of operations that are 'not strictly transformations', cf. Coseriu (1977: 53), see also Lipka (1971: 229) and Pennanen (1980a: 3).

It is obvious that 'the logical relations to one another' in Wundt's definition establish the direct connection of WF and the grammar of the case (Kastovsky 1981: 231ff.). When deverbal substantives are classified according to semantic points of view the same kind of categories are arrived at as operate in case grammar as deep structure cases and characterize the semantic relations between a predicate and the noun phrases occurring with it.

A further point that suggests itself in this connection is the lexicalist vs.

transformationalist controversy in TG philosophy of grammar. As Kastovsky aptly observes (l.c.), the lexicalist theory puts the emphasis on the enlargement of the lexis as the main function of WF, whereas the transformationalist viewpoint accentuates the syntactic properties of WF and makes the sentence the basis of interpretation.

10.1. A further aspect of the question we have been dealing with is suggested by the 'logical relations' in which, according to Wundt, the dismembered parts of a complex presentation are placed. These relations are dictated by the traditional logic and are formulated as a set of arbitrary rules of an autonomous syntax. Though empirically established, these rules do not explain how and why things are related as they are (cf. Luutonen 1984 and Siro 1978).

The introduction of the cognitive or natural grammar as outlined by Langacker (*Language* 1981 vol. 57 and 1982 vol. 58 and *Foundations of Cognitive Grammar* 1983, Bloomington) is an important prospect to WF studies as well: Langacker endeavours to relate the structure of language to the extralinguistic phenomena which are its foundation and to do away with the classifications and concepts of the traditional and the TG grammar. These are both felt to be artificial and are replaced by a totally new battery of concepts. Langacker starts from the view that the central problems of present-day linguistics are conceptual, due to the unserviceability of our traditional grammatical concepts for the purpose of a natural description of the language; thus he tries to include in his theory such phenomena in language as have been looked upon as peripheral, and consequently introduces dozens of new concepts as well as old terms in new meanings (cf. Luutonen 1984).

The question how language reflects reality and that of the arbitrariness of the linguistic sign have been posed by earlier scholars, e.g. the American philosopher Charles Sanders Peirce (†1914); his analysis of the linguistic sign — as symbol, index and icon — was revived by Roman Jakobson ("Quest for the essence of language" *Diogenes* 51, 1965, see Siro 1978). A relevant and important publication of recent date is Dressler's *Morphology: the dynamics of derivation* (1985).

Apropos of logic, it remains to be seen how far the different types of categorial grammars based on the semantics of formal logics will be able to contribute to the clarification of the concept of an 'ideal word-formation' and its eventual application to natural languages.

11. Viewed as a whole and at a certain distance, the research done in the field of WF brings to one's mind the type of thinking that de Bono describes as 'vertical'. This is to say, a vertical thinker proceeds along the line once adopted, refining his concepts and methods; because he is looking harder and harder in the same direction he cannot look in a different direction, just as it is not possible to dig a hole in a different place by digging the same hole deeper (de Bono 1967: 22f.). A digger capable of lateral thinking will pause and look

round for another spot to start a new hole at, if the original one is not in accordance with his objectives and plans.

Although there is no such turn-about in the records of WF, there are clear symptoms pointing to that direction. The attempts at new approaches to linguistic description mentioned in my earlier survey (Pennanen 1972: 300f.), such as tagmemics, parametric linguistics, stratificational grammar and the like, are indications of dissatisfaction with the hole that has been being dug, and Barri (1977), in contending that WF should be given up in structural linguistics, is about to stop digging in the original hole. Dressler's polycentristic model (1977, 1979) as well as Lipka's (1983) proposition of a six-level approach to the analysis of complex lexemes point to the same direction, to the recognition of the inadequacy of the traditional models of description.

Tournier, in the true spirit of the explorer, on arriving at the conclusion that specialized studies of the individual processes of WF, or separate semantic fields, result in limited or deformed views of WF, decides to enter upon a long-time project, the first stage of which is the presentation of the data in full. Thus his corpus includes also semantic change and borrowing in addition to the traditional categories and types of WF (1983: 5). After a descriptive analysis of the corpus, the emerging facts will be confronted with theoretical models with a synthesis in the form of a new theory in view.

12.1. It is, however, Bauer that comes nearest to the lateral line of thought: not that he would start an entirely new hole, but he indicates a new spot where to dig.

In his discussion of the productivity of CVN Bauer (1983: 266f.) emphasizes its commonness in English; there appear to be no morphological restrictions and all form classes seem to be able to undergo CVN. Bauer's interpretation of this is to the effect that CVN is a totally free process, any lexeme being able to undergo CVN into any of the open form classes as the need arises. He goes on to suggest that CVN "can possibly break down the distinction between form classes in English" and lead to a system "where there are closed sets such as pronouns and a single open set of lexical items that can be used as required" (l.c.). Bauer emphasizes the "highly speculative" character of this suggestion, but pertinently sees it as part of "the trend away from synthetic structure and towards analytic structure which has been fairly typical of the history of English over the last millennium".

12.2. Bauer's linguistic vision is, however, not so surprising or unexpected as it may seem at first sight. It compares with Krusinga's very much earlier dictum that in English "any noun may be used as a verb" (*A Handbook of Present-day English* II.3: 96, 120). Significantly enough, Krusinga does not contend that this rule also holds inversely. The cyclic movement towards analytic structure has been gathering momentum during the last few centuries.

Above we have emphasized the basic role of the sentence as the origin of

the word. But there is more to it than that: there is general agreement as to the priority of the sentence in the development of the human speech. Language first emerged as sentences, from which words, form classes, inflexions and WF subsequently developed during hundreds and thousands of years. There are languages which have preserved the rich system of inflections that was once developed, e.g. the Kalispel language, which inflects all the words that make up a sentence, or Mordvinian (a Finno-Ugric language) which has noun conjugation (Alhoniemi 1982), i.e. also non-verbal words may take a verbal inflexional ending in predicate position. The other extreme, of course, is for a language to do away with inflections, either totally or up to a minimum.

These two opposite strategies or modes of organizing a message have been elaborated by Givón (1979: 223), who refers to them as the pragmatic and the syntactic mode respectively. Table 3 presents a survey of them.

The pragmatic mode, the primitive sentence pattern, that is, is based on the topic — comment structure, loose co-ordination, slow rate of production, absence of morphological encoding, the central role of intonation as indicator of the focus, and the use of word-order to mark new information vs. old.

The syntactic mode is characterized by S-V-O structure, extensive use of subordination, rapid production, fine-graded morphological encoding, the secondary role of intonation as an indicator of the focus, and the use of word-order to express semantic case-functions.

Although the roots of the pragmatic mode reach back to time immemorial, it survives parallelly with the syntactic mode as part of the inmost essence of language. The course of the development from pragmatic to syntactic is repeated in the process of acquisition of the native language by the human child. An adult learner of a second language resorts to typically pragmatic shifts where his or her command of the foreign idiom fails. A Hungarian lady, who had taught herself German by her own nature method, once began with this warning: "Ich erzähle im Präsens, ist aber alles im Imperfekt".

A further application of the pragmatic mode are the so-called pidgin languages, which may become the spoken idiom of a community and soon develop syntactic features, in the same way as a second language learner may ultimately reach the level of 'near-native'. It is highly significant that any linguistically native speaker of a language fully in command of the syntactic mode or strategy almost automatically falls back on the pragmatic one in an emergency. It is worth noticing that the tendency towards pragmatic structurization is supported by the law of the economy of expression: maximum of content within a minimum of linguistic means (Havers 1922: 182, 193). In the case of a communicative situation of the pragmatic type sufficient understanding is achieved by extralinguistic means which compensate for the insufficient linguistic ones.

The dichotomy of pragmatic vs. syntactic is not only a matter of sentence

Table 3. Survey of the pragmatic and the syntactic mode

	Pragmatic mode	Syntactic mode
Type of structure	Topic — comment Loose conjunction	Subject — predicate Tight subordination
Rate of delivery	Slow, with many intonation contours	Fast, with one single inton. contour
Encoding	No use of grammatical morphology	Elaborate grammatical morphology
Role of intonation	Central indicator of new information	Rather the same, lesser functional load
Role of word-order	Old information comes before new	Word-order signals semantic case-functions
Verb to noun ratio	One nominal clause attaching to a semantically simplex verb	Several nominal clauses attaching to a semantically complex verb
Register	Informal, spoken, not planned	Formal, planned, written
Evidence	A child's early attempts at speech; Adult learner of a second language; Pidgin languages	Adult competence in the native language, 'near native' command of a second language; Creoles

structurization. It is equally relevant to WF as well as an essential motive power in language. The past of the language survives in linguistic reality and repeats itself in the individual members of the language community, in their language-learning process and speech behaviour.

12.3. Against the background of the above phenomena it is conceivable to look upon the differences between the parts of speech as less radical and sharp than they are believed to be. Ross (1972: 326) contends that "the distinction between verb, adjective and noun is one of degree, rather than of kind".

Creissels (1979: 84) calls attention to the *indifférentiation* 'the state of being not differentiated, specified', of the lexemes as regards the distinction between the noun and the verb, and refers to the traditional orthography, behind which the similarities are concealed.

The adaptability of the same word stem to being used in several form classes is a common feature in Indo-European languages, and not restricted to these. Biese quotes examples from Sanskrit (1941: 339ff.), in Modern Swedish it is normal to use the verb stem pure and simple as a noun denoting the agent or the action or even condition and quality (Söderbergh 1967: 79, 97f., 127 and Wessén 1958: 20f.), and in Finnish, to quote an example outside the IE family of languages (Hakulinen 1961: 49ff., Siro 1978), certain primary, non-derivational verb stems may occur as nouns and/or adjectives. The impersonal verb *kylmä* 'it freezes' is an example.

- (1) *Nyt kylmä-ä taas* 'Now it freezes, is cold again'.
- (2) *Kylmä on sietämätön* 'The cold is intolerable'.
- (3) *Kättesi on kylmä* 'Your hand is cold'.
- (4) *Nyt ei kylmä enää* 'Now it is not cold any more'.

In English the parts of speech are not morphologically distinguished; thus there is nothing extraordinary about such multifunction items as *down*, *like*, *near*, or *round* etc., which can be used in the function of as many as five form classes. Gardiner (1932:130) explains this phenomenon by means of the concept of word-form, "a kind of meaning permanently attached to words over and above the meaning of the stem, intimating the formal character in which the listener may expect the speaker to have intended the thing-meant to be taken" (138). Accordingly, parts of speech are 'distinctions of word-form' (134), but in the case of items like those quoted above the word-form is concealed behind a number of alternatives, cf. Pennanen (1980 and above paragraph 8.2.).

The following examples will illustrate the English *round* and its Swedish equivalent *rund*.

- |  |   |
|--|---|
| (5) <i>Riddarna av runda bordet</i>      | 'The knights of the Round Table'            |
| (6) <i>jordens rund</i>                  | 'this earthly round'                        |
| (7) <i>Jag såg honom runda gathörnet</i> | 'I saw him round (ing) the street corner'   |
| (8) <i>Jim har seglat världen runt</i>   | 'Jim has sailed round the world'            |
| (9) <i>Barnet irrade runt på gatorna</i> | 'The child was wandering about the streets' |

The corresponding German lexeme behaves very much in the same way.

- |   |                                   |
|---|-----------------------------------|
| (10) <i>Die Tafel ist rund</i>                    | 'The table is round'              |
| (11) <i>das Rund der Erde</i>                     | 'the early round'                 |
| (12) <i>Das kostet rund 500 Mark</i>              | 'It costs round 500 marks'        |
| (13) <i>Die Teile runden sich zu einem Ganzen</i> | 'The parts round up into a whole' |

12.4. The use of the same stem (lexeme) in several form classes is identical with conversion when the application to the different functions happens without formal change, otherwise it belongs to derivation. The same trend towards a minimum of formal paraphernalia is the tendency of English to use an inflexionally neutral form of nouns and nominals as the initial part of noun compounds (Adams 1973: 58—59, cf. Jespersen MEG II: 185—187, and Pennanen 1984a: 88). The 'neutralized' feature is in most cases number, e.g.



*tooth-decay*, *gut-less*, *fi ve-day week*, but it may be the ending of the genitive as well, e.g. *enemy-attack*, *pig-tail*. In *watch-dog*, *workman* it is the verbal endings that have been suppressed.

Adams (l.c.) points out that the shift from an explicit form like *pig's tail* to the neutralized one also marks the transfer from a free phrase to compound, from syntax to WF, so the speak.

Compounds like *high-rise sb.*, *low-rise sb.* and *look-alike sb.* (Pennanen 1981) are instances of the freedom with which verb-based nominals may be used in WF. Above, under 9.2., attention was called to what Gardiner called 'incongruent use' and the dominance of intonation over syntax. If statement is regarded as the basic sentence form, its use as question or command as well as the use of question as a statement (*He is well? You come down at once? Who cares?* see Gardiner 1932: 231) are evidence of the tendency to operate by means of basic, 'neutral' units. Whether this is a symptom of greater freedom or of relaxed standards as regards the finished product is not easy to decide. At any rate, also new lexical items often resemble mini-telegrams, offering to the receiver/listener the component elements, say, of a compound (nominal or verbal) juxtaposed in a neutral 'naked' shape and leaving a good deal of extralinguistic information to be supplied by the listener. Sometimes certain types of present-day communication including WF suggest the idea of gambling on the principle "the less I say, the more I mean".

Leech (1966: 136f.) complains of "copywriters' repeated violation of lexical restraints", but on the other hand they may be regarded as pioneers of the liberalization of WF, made possible by the ever-increasing amount of information shared by larger and larger sections of the community and spread by the various mass media. More and more people are aware of each other's range of knowledge; they are able to decode a message when they know what is spoken about, by whom, in what kind of situation, although these circumstances are not expressed by linguistic elements. For examples see Leech (l.c.) and Pennanen (1981: 86–88).

But there is evidence of the 'liberalization' of WF also in the use of certain categories and types that have been subject to restrictions. The formation of compound verbs is a case in point. Compound verbs in English are mainly formed by back-formation or CVN from compound nouns, to a lesser degree by putting two lexemes together, like other types of compounds (see Adams 1973: 105–112, Bauer 1983: 207f. and Pennanen 1966: 109–117).

The prominent role of BF in the derivation of compound verbs is based on a process of re-segmentation: the basic nominal or adjectival compound has as its final component an agent- or action-noun or a participial adjective, whose characteristic ending is extended to belong to the whole compound, e.g. *stage-manager* → *stagemanag-er* → *stage-manage*.

Compound verbs of the above description are not limited to English. They

abound in Swedish:

- (1) *allmänbildasig* ← *allmän bildning* 'acquire a good all-round education'
- (2) *ansiktstlyfta* ← *ansiktstlyftning* 'to face lift'
- (3) *violintävla* ← *violintävling* 'take part in a violin competition'
- (4) *språkgranska* ← *språkgranskning* 'check the language'

The verb *magdansa* 'to belly dance' is a direct derivation from the corresponding noun *magdans*, whereas *tidigarelägga* 'to move to an earlier point of time' ← *lägga (till en) tidigare (tidpunkt)* is an example of the freedom of compounding in Swedish. The German verb *managen* is either the 'naturalized' form of E. *manage* or a BF from the loanword *Manager: Johann, der (den) Sänger Reinhard Fendrich managt* (*Neue Post* 1986 Nr 7: 12).

This regressive derivation of compound verbs from composite agent- or action-nouns is quite common in Finnish, too, mainly in informal or colloquial speech (journalese, mass-media), e.g. *avioerota* 'to separate' ← *avioero* 'divorce' (sb.) is often used instead of the phrasal expression *ottaa avioero* 'be separated'.

12.5. Even if Bauer's suggestion about the decline of the form classes in English and the ascent of CVN may seem "highly speculative" as he says himself, the linguistic reality rather supports than contradicts his line of thought. The progress of CVN is not an isolated phenomenon, independent from other trends of development. On the other hand, the final take-over is still hidden behind the veil of the unknown future. At present it is possible to observe how the traditional constraints on CVN are modified or scrapped, either directly or indirectly. Though compound verbs in English are principally formed by CVN and BF, rather than by means of composition, it seems likely that more and more verb compounds will be produced analogically by putting the component parts together. The law of the economy of expression operates also by preferring a short cut to the goal, if any such thing presents itself. Besides, analogy has a strong tendency to supersede rules.

It remains to be seen in what way the 'collapse' of the English form classes will affect the WF and its categories, what kind of oppositions and conflicts may arise. These questions are aspects of the cyclical development of English, which moves in amplitudes of centuries and millennia, sometimes gathering speed in a special field over periods shorter than that, cf. Lipka (1971: 236–237).

13.1. Above we have presented a few observations and comments on a number of aspects of the English WF and its problems, and have now come to the point at which to attempt a summing up of our somewhat desultory remarks.

Although the number of investigations into different fields of WF are steadily increasing and striving for greater and greater depth, no comprehensive



pattern has emerged so far. One thinks of a jig-saw puzzle whose pieces refuse to fall into place. It seems that different categories and types of WF lend themselves to description, that is analysis, by means of descriptive models based on different theories of grammar. Witness the structuralistic model (Marchand), which does its work with success when it is applied to the analysis of affix-formations and compounds, but whose description of CVN and BF is far from convincing. The same applies to TG grammars, which are not regarded as sufficient for the description of all categories of WF, cf. above 9.5.

Models based on TG theory and grammars have the drawback that they tend to become highly complicated with an increasing number of rules, sub-rules and constraints adduced to attain the intended generality and penetration. In this respect the two-component model proposed by Šaumjan (*Principles of Structural Linguistics* 1971, cf. Guilbert 1975: 12 and Vion 1982: 82—83) is interesting: one component generates the words, the other the sentences. On the whole, one gets the impression that also the TG approaches to WF more or less observe the 'vertical' lines of thought. A comparative study of the treatment of WF by the different schools of TG theory and a critical assessment of their respective ambitions, attainments and failures is of topical interest.

13.2. It goes without saying that structuralistic descriptions of WF place the main emphasis on form, but this is done at the expense of the analysis of the word-forming process itself. Marchand very rightly emphasized the importance of a threefold analysis of 'WF syntagmas', viz. morphologically, grammatically and semantically, "all three in equal parts"; he is equally right in maintaining that this has not been done so far, nor does he himself quite live up to his teaching.

When we are told that the verb *to hammer* has been formed by means of CVN from the substantive *hammer*, we learn just the name of a linguistic process, but we do not learn anything about that process itself and about the series of questions that pose themselves, such as the meaning of the basic noun and the conversion verb, and the relation between the noun and the verb (see Ljung 1977: 175 and Karius 1983: 76—79). As regards the morphological analysis, we are left with the zero-morpheme, and if we do not accept this concept, we are more or less at a loss. In the case of CVN the analyst is faced with the question of the processing of extralinguistic knowledge in its pure form, both synthetically and analytically.

The present-day trend in English and, as it seems, in other languages too, is to convey more content with less form, to depend more on connotation than denotation. This seems to be one of the foremost challenges to the study of WF.

13.3. The cyclic movement of English towards more and more analytic structure is reflected on the language as a liberalization of the traditional standards of 'correctness', the 'musts' and 'must nots' of usage. As this also concerns

WF, as we have attempted to show, it would seem consequent to extend a similar process of modification to the set of practically axiomatic postulates that have come to be accepted as the corner stones of the entire edifice of WF. This does not mean that the customary, strict interpretation of the tenets should be declared null and void altogether: but the narrow sense shall not reign supreme to the exclusion of a broader view.

The secondary character of word-formations, i.e. the new lexical items formed on the basis of the primary vocabulary, stands to reason, but it does not follow that all of them should be composites, complex formations, analysable as syntagmas. Motsch (1977: 181 n. 2) poses the question whether word-formations should be analysed in the same way as other complex formations of a language or be treated as 'expressions of a special nature' (*Ausdrücke besonderer Art*). Motsch obviously accepts the basically complex character of word-formations, which does not prevent a freer application of the concept.

Formations of a special character may also be morphologically simplex like CVNs and BFs, which do not conform to the principle of diagrammatic iconicity and are not transparent or motivated.

As regards composite formations, which by Marchand's definition must be syntagmas made up of a determinant and a determinatum, allowance should be made for paratactic syntagmas. Therefore it is an obvious improvement to use the term 'relate' as Gauger (1968: 297) suggests; see also Lipka (1981: 288) and Pennanen (1982: 257). Determination is not addition but a relationship, Gauger emphasizes.

13.4. The concept of complexity postulated as an essential characteristic of a new lexical item produced by a process of WF is far from an adequate explanation. If it is the new lexical item that is distinguished from its base by the feature 'complex', conversions and back-formations have no morphological element for the analyst to go by. Accordingly, if the criterion of complexity is to be of any relevance, it must be identifiable on some other level, semantic or grammatical.

Is *to clean* complex in comparison with the adjective *clean* from which it is derived, because it has the meaning 'to make clean'? But the substantive *a shave* 'an act or result of shaving' ← *to shave* then? Or *sleep* sb. and *sleep* v., which in Zandvoort's (1957: 265) analysis "exist each in their own right", though the verb can semantically be rendered as meaning 'to rest in sleep'. Does the existence of complexity establish a derivational relationship where there should be none?

To make a simplex item complex by introducing a zero morpheme, which has no concrete shape but is felt to be present by force of the analogy of other derivations of the same semantic type, is not convincing, cf. Kulak's (1964: 204) classification of desubstantival zero-derived verbs according to 'the meanings of the zero'.

The above queries are sufficient to demonstrate the need of a thorough analysis of the concept of complexity in WF, its forms of manifesting itself and the hierarchical relations between different types of complexity.

13.5. The dichotomy of the lexicalist vs. transformationalist theory of lexicon, as established by Chomsky, brings to a point the opposition of two principles of the structurization of the lexicon. This is, so it seems to us, an abstraction for the sake of the theory; in linguistic reality, where we do not meet 'the ideal speaker-listener', neither type of lexicon operates in its absolute form. It seems conceivable that a language member's lexicon functions according to both principles: the lexical items are arranged in the individual lexicon along a cline, in the spirit of a compromise. Significantly enough, the lexicon of Langacker's planned natural grammar records and lists both the WF rules and the items produced by them. All this is to say that further study of the lexicon is needed, even if we cannot look inside it: we can only extrapolate its functioning from what it puts at our disposal.

13.6. Above, the language-specific character of WF has been emphasized in different connections. Is this a question to be reconsidered from a 'lateral' angle? Lyons (1977: 245f.) points out that the thesis of the language neutral character of the ultimate components of sound and meaning, propagated by the Prague School and the Copenhagen School, may provide a relevant approach to the natural (cognitive) grammar. Nor should linguistic relativism, by which name Whorfianism has come to be known, be overlooked. Karius (1983: 16—42) for one calls attention to the question of the processing of the extra-linguistic knowledge, both synthetically and analytically, in the formation of denominal CVN verbs by a speaker. There is a natural connection between WF and the theory of linguistic heredity (German *Vererbungslehre*); this branch of linguistics is concerned with the question of the origin of the phonological (eventually stylistic) characteristics of morphologically complex expressions (Plank 1985a, 1985b). As Plank points out, a good deal of relevant information is included in any language-specific morphology and WF. Conversely, findings of the theory of heredity could conceivably be expected to throw some light on WF, particularly in cases where certain characteristics of complex expressions are not immediately 'inherited' (*ererb*), but nevertheless dependent on certain other characteristics of their component elements. The category of the so-called contextuials (Clark and Clark 1979: 782 and Karius 1983: 36—42) suggests itself here.

13.7. In my earlier survey (1972: 301) emphasis was laid on the criteria of 'wordhood' and a valid definition of 'the lexical unit'. It now seems even more vital to find out the essential characteristics of the novelty, 'newness' of a lexical item apart from its being a secondary product that has not been seen before. Marchand established the requirement of morphological, grammatical and semantic analysability, and had no problem with CVNs, which he declared

to be complex by adducing the zero-morpheme. But if the zero is not accepted, the complex character of a CVN depends on grammatical (syntactic) and semantic features. However, complexity has not been described from this angle so far.

This is a weighty argument in support of the claim that WF should be approached as a category of grammar in its own right, and more important still, on its own conditions, not on those of an imposed grammatical theory. Nor should traditional axiomatic dicta be allowed to interfere with empirical data and their interpretation.

Further, WF studies should transfer the focus of attention from morphology to the process itself, and extend the matrix from received standard to dialect, informal speech. Also the language-special character of WF would profit by comparative and contrastive studies within and across typological boundaries.

Finally, and this applies to the English WF as well as WF in general, it would seem both reasonable and conceivable to look for a model of WF which is based on the jobs that the new-formed lexical items are intended to do rather than on the means, morphological or syntactic, by which they are created (see Coseriu 1977, Pennanen 1980: 8).

14. At the end of her book Adams (1973: 215) suggests that the study of syntax and semantics is essential to studies of WF, though our knowledge of language and its function is not sufficient for a model on that basis to be feasible. The last ten years or so have no doubt considerably added to our knowledge of language, but I am afraid they have also given us a more concrete idea of how much is still unknown. Just as we use language without really knowing exactly how and by what kind of rules it works, we make use of the full register of WF, in English as in any other language. Our word-forming machine works to our full satisfaction, but it does not allow us to have a look behind the scenes, nor is the deepest introspection of any avail.

When Humboldt described word-formation as "the deepest, most secret part of language", he might well have had in mind the opening words of the Gospel according to St. John. It is not only linguistics in general that will be served by further penetration of the problems of word-formation: each step forward will bring us nearer to the mystery of man and the human mind.

#### REFERENCES

- Adams, V. 1973. *An introduction to Modern English Word-Formation*. London: Longman.  
 Alhoniemi, A. 1982. "Eräitä näkökohtia mordvan nominaalisen predikaatin käytöstä" [Certain aspects of the use of the nominal predicate in Mordvinian]. *Publications of the Linguistic Association of Finland* 8. 47—58. Turku.  
 Aronoff, M. 1976. *Word Formation in Generative Grammar*. Cambridge, Mass.: MIT Press.

- Bauer, L. 1983. *English Word-Formation*. Cambridge: Cambridge University Press.
- Barri, N. 1977. "Giving up word formation in structural linguistics". *Folia Linguistica* XI.1/2. 13–38.
- Biese, Y. M. 1941. *Origin and Development of Conversions in English*. Annales Academiae Scientiarum Fennicae B XLV.2. Helsinki.
- Bolinger, D. L. 1969. "Categories, Features, Attributes". *Brno Studies in English* 8. 38–41.
- de Bono, E. 1967. *The Use of Lateral Thinking*. Aylesbury: Penguin.
- Brandt, S. 1984. "Does 'Cranberry' Contain a Cranberry Morpheme?". *Nordic Linguistic Bulletin* 8.3. 6–7.
- Brekke, H. E. and Kastovsky, D. (eds.). 1977. *Perspektiven der Wortbildungsforschung. Beiträge zum Wuppertaler Wortbildungskolloquium vom 9.–10. Juli 1976*. Gesamthochschule Wuppertal, Schriftenreihe Linguistik Bd. 1. Bonn: Bouvier.
- Brekke, H. E. and Lipka, L. (eds.) 1968. *Wortbildung, Syntax und Morphologie*. Festschrift zum 60. Geburtstag von Hans Marchand am 1. Oktober 1967. The Hague: Mouton.
- Clark, E. V. and Clark, H. H. 1979. "When Nouns Surface as Verbs". *Language* 55. 767–811.
- Coseriu, E. 1968. "Les structures lexématiques". *Zeitschrift für französische Sprache und Literatur* 1. 3–16.
- Coseriu, E. 1977. "Inhaltliche Wortbildungslehre am Beispiel des Typs 'coupe papier'". In Brekke and Kastovsky 1977. 48–61.
- Coseriu, E. 1978. *Probleme der strukturellen Semantik*. Tübingen: Narr.
- Creissels, D. 1979. *Unités et Catégories grammaticales*. Grenoble: Université de Grenoble.
- Dressler, W. U. 1977. "Elements of a Polycentric Theory of Word Formation". *Wiener Linguistische Gazette* 15. 13–32.
- Dressler, W. U. 1979. "On a Polycentric Theory of Word Formation". In Dressler and Meid (eds.) 1979. 426–429.
- Dressler, W. U. 1984. "Subtraction in Word Formation and Its place Within a Theory of Natural Morphology". *Quaderni di Semantica* V/1. 78–85.
- Dressler, W. U. and Meid, W. (eds.) 1979. *Proceedings of the Twelfth International Congress of Linguists, Vienna, August 28-September 2, 1977*. Innsbrucker Beiträge zur Sprachwissenschaft.
- Erben, J. 1975. *Einführung in die deutsche Wortbildungslehre*. Grundlagen der Germanistik 17. Berlin.
- François, F. (ed.) 1980. *La Linguistique*. Paris: Presses Universitaires de France.
- Gardiner, A. H. 1932. *The Theory of Speech and Language*. Oxford: Oxford University Press.
- Gauger, H.-M. 1968. "Determination und Determinans im abgeleiteten Wort?". In Brekke and Lipka (eds.) 1968: 93–108.
- Givón, T. 1979. *On Understanding Grammar*. New York: Academic Press.
- Guilbert, L. 1975. *La créativité lexicale*. Paris: Larousse.
- Haas, W. 1957. "Zero in Linguistic Description". *Studies in Linguistic Analysis*. Special Volume of the Philological Society. 33–53. Oxford: Blackwell.
- Hakulinen, L. 1961. *The Structure and Development of the Finnish Language*. The Hague: Mouton.
- Halliday, M. A. K. 1966. "Lexis as a Linguistic Level". In *Memory of J. R. Firth*, 148–162. London: Longman.
- Havers, W. 1931. *Handbuch der erklärenden Syntax*. Heidelberg: Winter.
- Hockett, Ch. F. 1969. *A Course in Modern Linguistics*. New York: McMillan.

- Jespersen, O. 1936. *A Modern Grammar*. (MEG) Vol. II. Heidelberg: Winter.
- Karius, I. 1985. *Die Ableitung der denominalen Verben mit Nullsuffixierung im Englischen*. Tübingen: Niemeyer.
- Karlsson, F. 1976. *Johdatusta yleiseen kielitieteeseen*. Introduction to General Linguistics. Helsinki: Gaudeamus.
- Kastovsky, D. 1978. "Zum gegenwärtigen Stand der Wortbildungslehre des Englischen". *Linguistik und Didaktik* 36: 351–366.
- Kastovsky, E. (ed.). 1980. *Perspektiven der lexikalischen Semantik. Beiträge zum Wuppertaler Semantikolloquium vom 2.–3.12.1977*. Bonn: Bouvier.
- Kastovsky, D. 1981. *Wortbildung und Semantik*. Düsseldorf-Bern: Schwann-Bagel & Francke.
- Koziol, H. 1937/72. *Handbuch der englischen Wortbildungslehre*. Heidelberg: Winter.
- Kulak, M. 1964. *Die semantischen Kategorien der mit Nullmorphem abgeleiteten desubstantivischen Verben des heutigen Englischen und Deutschen*. Tübingen.
- Kürschner, W. 1977. "Generative Transformationsgrammatik und die Wortbildungstheorie von Hans Marchand". In Brekke and Kastovsky (eds.) 1977. 129–139.
- Langacker, R. W. 1973. *Language and its Structure*. New York: Harcourt, Brace & Jovanovich.
- Leech, G. N. 1966. *English in Advertising*. London: Longman.
- Lipka, L. 1968. "Kugelsicher – A l'épreuve des balles". In Brekke and Lipka (eds.) 1968. 127–143.
- Lipka, L. 1971. "Grammatical categories, lexical items and word-formation". *Foundations of Language* 7. 211–238.
- Lipka, L. 1983. "A Multi-level Approach to Word-formation: Complex Lexemes and Word Semantics". *Proceedings of the XIIIth International Congress of Linguists, August 29–September 4, 1982. Tokyo*. 926–929.
- Lipka, L. and Hartmut, G. 1981. *Wortbildung*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Ljung, M. 1977. "Problems in the Derivation of Instrumental verbs". In Brekke and Kastovsky (eds.) 1977. 165–178.
- Luutonen, J. 1984. "Luonnollista syntaksia" [On natural syntax]. *Sananjalka* 26. 171–180.
- Lyons, J. 1977. *Semantics*. Cambridge: Cambridge University Press.
- Marchand, H. 1963a. "Die Ableitung desubstantivischer Verben mit Nullmorphem im Französischen und die entsprechenden Verhältnisse im Englischen und Deutschen". *Zeitschrift für französische Sprache und Literatur* 73. 164–179.
- Marchand, H. 1963b. "On a Question of Contrary Analysis with Derivationally Connected but Morphologically Uncharacterized Words". *English Studies* 44. 176–178.
- Marchand, H. 1964a. "Die Ableitung desubstantivischer Verben mit Nullmorphem im Englischen, Französischen und Deutschen". *Die Neuen Sprachen* 3. 105–118.
- Marchand, H. 1964b. "A Set of Criteria for the Establishing of Derivational Relationship Between Words Unmarked by Derivational Morphemes". *Indogermanische Forschungen* 69. 10–19.
- Marchand, H. 1969. *The Categories and Types of Present-Day English Word-Formation*. München: Beck.
- Motsch, W. 1977. "Ein Plädoyer für die Beschreibung von Wortbildungen auf der Grundlage des Lexikons". In Brekke and Kastovsky (eds.) 1977. 180–202.
- Pennanen, E. V. 1966. *Contributions to the Study of Back-formation in English*. Acta Universitatis Tamperensis ser. A, vol. 4. Tampere.
- Pennanen, E. V. 1971. *Conversion and Zero-derivation in English*. Acta Universitatis Tamperensis ser. A, vol. 40. Tampere.